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UNDERSTANDING MIDDLE SCHOOL STUDENTS' ENROLLMENT CHOICE FOR A FULLY ONLINE EDUCATIONAL ENVIRONMENT DURING THE FALL OF 2020 COVID-19 NATIONAL HEALTH EMERGENCY: A MIXED METHODS STUDY

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DISSERTATION

A dissertation proposal submitted in partial fulfillment of the requirements for the Degree of Doctor of Education in the College of Education at the University of Kentucky

By

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2021

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ABSTRACT of DISSERATION

UNDERSTANDING MIDDLE SCHOOL STUDENTS' ENROLLMENT CHOICE FOR A FULLY ONLINE EDUCATIONAL ENVIRONMENT DURING THE FALL OF 2020 COVID-19 NATIONAL HEALTH EMERGENCY: A MIXED METHODS STUDY

Students' choice in enrolling in a distance learning environment was examined in a mixed methods study in the fall of 2020 during the COVID-19 national health emergency of that same year. After state mandated school closures in the spring 2020, students statewide were forced into a fully online learning situation until the end of that semester. In the fall, the district that was the study site offered families the choice of either hybrid or fully distance learning environments where students could attend school during the national health crisis that had persisted. That choice would be in force for the full semester, barring illness and need to follow public health guidelines. Adapting to this transformation of the new middle level learning environments, including issues such as access to the Internet, availability of devices, and teachers to cover the classwork and assignment was a unique experience for schools. A new middle school, the Distance Learning Academy was launched for those choosing fully online instruction. Families of 447 seventh and eighth grade students chose to learn in a distance learning environment rather than the hybrid settings. Fifty-Four (54) of those students were surveyed and a subset were interviewed regarding their preferences and experiences in the online learning environment.

Results indicated that parents were the main decision makers in registering students for the distance learning setting. Findings also revealed students had a reliable Internet connection at home; however, 56% of students did not have access to a device to learn in a distance learning environment. Students reported issues including frustration with feedback from teachers and some dissatisfaction with the experience. After 12-15 weeks in the distance learning setting, survey results indicate that 59% of students answered "neutral" or "not exciting at all" when asked if online learning was enjoyable. Learning experiences were varied among content areas. Mathematics proved to be a subject that students struggled to learn in distance learning preferring a traditional setting with a teacher. Positive aspects of the online learning environment included flexibility with schedules, re-doing missed or incorrect homework assignments, and completion of assignments at their own pace. The district will also retain the middle level online learning academy, but with program, modifications based on lessons learned. Implications of this study are useful to inform district policy and to provide guidance for parents in choosing the best educational environment.

KEYWORDS: pandemic middle school experiences, COVID-19 era schooling, middle level distance learning, middle level student online learning preferences, student choice, online vs. onsite middle-level math.

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DEDICATION

To my family for supporting me through this entire process. Billy, my soul mate and husband, your constant love, support, and encouragement through my doctoral program has been never-ending. To my parents: my father, John E. Maltais, Jr., your love of God, family, learning, reading and hard work are deeply rooted into your children. To my mother, Norma Jean Garland Maltais, the caretaker of our family. Thank you for setting the example of a loving, hard-working woman and mother. Finally, to my children Tori Beth (James Darrin), Madison Main (Tom), & John Tanner, your faith in me and your support has been my strength throughout this process. I love you all dearly. Keep God first, family second and blessings will abound.

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CHAPTER 1: INTRODUCTION

Overview

On March 6, 2020 the State's Governor declared a state of emergency due to the pandemic novel coronavirus COVID-19 (Safety Expectations, 2020). In an effort to control the spread of COVID-19 on March 11, 2020 during a meeting called by the Governor, along with all State Superintendents, recommendations were developed on the advice of the World Health Organization (WHO) and the State's Department of Public Health Commissioner to suspend in-person classes for a period of two weeks. COVID-19 would affect the educational settings of all 172 school districts and the lives of 650,000 public school students (State Gov., 2020). School districts across the Commonwealth prepared for virtual learning within a 48-hour window. Challenges abounded as districts tried to meet the needs of all students in the district. Internet and device availability were the biggest obstacles facing most districts. Schools scrambled to provide teacher support as they not only created engaging on-line learning lessons, but within 48-hours, they had to prepare paper packets for all students who did not have Internet connection or an available device for learning at home. By April 2020, the Governor issued a mandate for all Commonwealth public schools to remain closed for the duration of the 2020 school year (Safety Expectations, 2020).

On March 27, 2020 knowing that districts would need financial assistance, Congress enacted the CARES Act, Public Law 116-136. (Federal Register, 2020). This grant funding would offer districts the chance to provide one-to-one student technology for school year 2020-21. The CARES Act, signed into law March 27, allocated $30.75

billion in emergency education funding to states. According to the Federal Register (2020), the State received about $223 million. This amount equaled to about 4% of the State's annual education budget. Two sources would divide the funding. The Elementary and Secondary School Emergency Relief Fund would allocate $19.2 million with the intended purpose to provide local education agencies with emergency relief funds to address the impact of COVID-19 on elementary and secondary schools. The remainder would be allocated the Governor's Emergency Education Relief (GEER) Fund for $30 million that was designed to enable the nation's governors to decide how best to meet their states' K-12 and higher education needs (Federal Register, 2020).

On June 24, 2020, the State's Department of Education under the *Healthy at School Guidance* committee and the State Superintendents' Advisory Board gave feedback regarding spring 2020 distance learning and implementation reopening plans for the following fall 2020 school year for the Commonwealth's public schools (Perkins, 2020). Districts across the Commonwealth would decide how best to educate their students in the fall of 2020 with little to no hope for returning to school in a full-time traditional face-to-face (F2F) setting. Designing a model of learning was the expectation for all Commonwealth public districts. Creating learning environments where equitable Internet and device access, teacher training, software that would meet the State's Academic Standards for high school credits, and providing digital materials for students that are engaging and can "assists educators, parents and students with their distance learning" would be at the forefront of the planning (Maughan, 2020, p.1).

Collaborative planning with partnering agencies was a primary focus in designing methods to best mitigate the spread of the virus when returning to school (Perkins, 2020).

With the *Healthy at School Guidelines* in place, districts could determine the best method to educate all students. The *Healthy at School Guidelines* mandated a plethora of regulations for any F2F instruction to take place. Those regulations included guidance on creating 6-feet social distancing in classrooms, directional seating, wearing masks during transitions and options where 6-feet distancing is not available (Safety Expectations, 2020). At the time, Federal mandates regarding *Healthy at School Guidelines* changed by the day. Since the planning of this dissertation study began, district leaders have heard the mandate of no F2F instruction to the message of all students re-entering a school during the fall of 2020 on a normal 5-day schedule while wearing mask in any setting where 6-feet social distancing is not available.

This pandemic has shed light on the abundant inequities, and issues affecting access to education (Surkhali & Kumari Garbuja, 2020). Redefining educational systems during the spring of 2020 lockdown, gave leaders the opportunity to teach students in numerous ways. Learners with access to bandwidth, and technology could now learn at any time, any place, and with any mobile device that could connect to the Internet (Surkhali & Kumari Garbuja, 2020). Virtual learning gave students and teachers the opportunity to have emotional and moral support during the pandemic. New concerns have developed with all the potential ease of access in urban areas, and with online distance learning becoming the norm and not the exception for most middle school students (Surkhali & Kumari Garbuja, 2020). For example, rural areas struggle with student Internet availability and connection. In addition, "technical skills of teachers and students for handling virtual learning may be insufficient" (p. 345). These researchers also note less engagement, feelings of isolation and less interaction as compared to

traditional classroom environments. Conversations among peers in the distance learning environments were not as successful as traditional classrooms settings (Surkhali & Kumari Garbuja, 2020). Sharing emotions is not easily done in an online environment and social pressures such as showing up on time, turning assignments in on time and, following structured routines are additional challenges. Furthermore, "spending too much time in front of a computer could have ongoing, as yet not completely understood, effects" (Surkhali & Kumari Garbuja, 2020, p. 345).

Statement of the Problem

The continued spread of COVID-19 through the summer of 2020, led to the planning, and implementation of a distance learning model for districts across the Commonwealth. LaPoint County Public Schools district, a pseudonym, created a plan for a new distance learning academy (DLA) for grades K-12. This new model gave families a choice for their K-12 student to attend a hybrid-day schedule or enroll in the distance learning academy. Teachers in LaPoint County Public Schools district met virtually during the summer of 2020 to pace the State's Academic Standards for ELA, Science, Social Studies and Mathematics. The software company, *Odysseyware* contracted by the district, used the aligned standards to create bundled standards in their software for grades 3-12. For each unit of instruction, correlated activities, articles, and formative assessments were assigned to DLA students during the same period as those students in the hybrid environment. This arrangement allowed common assessment data to be collected from both environments. Although all core content standards were uploaded into *Odysseyware* for the distance learning environment students, this software was not compatible with Infinite Campus, the district state accountability and student

information online software system (also in use in many districts nationwide). For example, Odysseyware does not have access to attendance assignments and daily grades, behavior, and any individualized educational plans. Teachers in the DLA were able to input averages of tests but this information then, only provided aggregated overviews. Another key difference was that while parents could access student information in Infinite Campus, only students and their DLA teachers could access grades and work in Odysseyware.

LaPoint County Public Schools system has 8,063 students enrolled K-12 for the 2020-21 school year. Of that number, 2,881 chose to enroll in the new Distance Learning Academy (DLA). The academy now hosts 39.3% of the total number of students enrolled in LaPoint County Public Schools. Enrollment for distance learning in grades seven and eight total 447 students, which represents 15.3% of all enrolled students.

Of those 2,881 students, 1500 families or 52.1% requested a Chromebook device from the district. The district only had the available technology to provide one Chromebook per family. These families indicated they had no access to a laptop, smartphone, iPad or other device with which to access their learning modules. LaPoint County Public Schools Director of Technology was able to secure one hundred free hot spots for any family who did not have Internet access or transportation to be able to reach any of the newly installed hotspots across the district. All one hundred hot spots went to LCPS families and a waiting list was created for the remaining 150 families. Families who completed hardship applications for hotspot Internet service providers were required to show proof of

qualifying under federal and state guidelines for free-and-reduced status.

According to the district policy, once a student elected the online or on-site option, no transitions between the chosen online and onsite environments were permitted until the end of the first nine-week grading period. Only in emergency circumstances, (i.e. a student testing positive for coronavirus, or having direct contact with a close family member) would a change to another option be permitted.

COVID-19 has forced districts to look at the K-12 learning structure differently and provided a unique opportunity to change the face of instruction. Asking what educators can we learn from students who choose the online option in fall, after their mandated spring online experiences, can assist educators in supporting them through unexpected and drastic transitions. Through the planning of school settings during this national health crisis, educational decisions were made by adults without consulting the learner, who is also a key stakeholder. By surveying students about their experiences in the choice to enroll in a fully online environment versus a hybrid on-site environment, this research was intended to inform decision making of many educational stakeholders including teachers, students, parents, middle and high school administrators, and school districts. Likewise, the significance of this study includes benefits to instructional supervisors, coaches, curriculum specialists and teachers when determining which professional development, activities and strategies promote the most growth in student achievement.

Purpose of the Study

The intent of this study was to investigate and provide insight into middle school students' enrollment in a fully online educational environment, and their perceptions,

successes and struggles in their learning after unexpectedly transitioning to an online setting due to the COVID-19 pandemic school closures in March of 2020. A two-stage explanatory sequential mixed methods research design was used. The first phase of the study was a quantitative exploration survey to collect data related to students' choice in opting for a fully online education environment with a sample size of middle school students from LaPoint County Public Schools district in grades 7 & 8 (total students=54). After this initial exploration, the second, qualitative phase was conducted to validate the quantitative findings to help further understand students' choice and perceptions in choosing their learning environments. A faculty member in the DLA was also interviewed as part of the qualitative phase to further understand students' interview findings. The unanticipated situation of the pandemic, the district's reorganization plans and options, provided a unique opportunity to examine middle level students' learning experiences during a pandemic. While there is literature on high school and post-secondary students' experiences in online environments, research at the middle school, adolescent level is lacking. This study addresses that lack.

Research Questions

The following questions guided the study design and procedures.

The central research question was: Why did students choose an online virtual schooling experience to begin a full fall semester in middle school *after* having experienced the online virtual learning environments precipitated unexpectedly by the COVID-19 pandemic of spring 2020?

The sub-questions that were explored are as follows:

1. How or if the middle school students involved in the decision to opt for a fully online fall 2020 semester?
    a. What were students' preferences?
    b. What were their previous online experiences and *current experiences with Odysseyware LMS used in the DLA?*
2. To what extent do the qualitative interviews validate, extend or conflict with the quantitative survey results?
3. In what ways do the perceptions of middle school students about their own learning; reveal successes and struggles in their chosen learning environment during the fall of 2020?
    a. How do they anticipate their performance will be in the online environment on their Math Unit 1 assessment?
    b. What results emerge from comparing the actual performance data between the students who chose the hybrid F2F environment versus the online environment after taking the Mathematics Unit 1 assessment?

Assumptions

This explanatory sequential mixed method study was conducted with the assumption that all students in the sample will provide answers and feedback from the interviews and survey honestly and describe their actual attitudes and perceptions regarding their learning as it was portrayed in that particular setting.

Limitations

This research was conducted under the following limitations:

- Students in this research was limited to those enrolled in the DLA in LaPoint County Public Schools district and the sample is not randomized, thus findings are not generalizable to larger middle level populations.
- Instruction occurring in the distance learning format was through the software program, *Odysseyware* learning platform. The instruction is self-paced, with little to no teacher interaction other than to monitor percentage of work completed.
- One DLA faculty member was interviewed to provide necessary information regarding DLA teacher expectations, parent access, professional development and grading procedures.
- Consistent Internet connection for the distance learner in rural western Kentucky communities is also a concern, though not monitored in any systematic way by the district or for this study.

Summary

Today's middle school students are considered digital natives (Bennett, 2012; Chaiklin, 2010; Palfrey & Gasser 2011). While students use many technological devices, it was not clear how an extended, routine, fully online middle level schooling experience would actually play out in terms of students' satisfaction or their perceived and actual learning outcomes. The findings from study will assist educators in understanding the decision in choosing a fully online distance learning setting platform for middle level learners and what supports may be essential for their success during the novel coronavirus pandemic situation of the study, and now beyond as the study site makes a

DLA an ongoing learning environment choice for families in their district. Looking at attitudes and perceptions of their learning is also essential in understanding this generation of learners, and how hybrid or online instruction can be developed for middle level education. While LaPoint County Public Schools have been integrating technology in instruction for many years, this past pandemic-era spring's mandated school closure really changed the situation so that technology has been shown to play an "invaluable role in active learning" (Miller, Pfund, Pribbenow & Handelsman, 2008, p. 1329). Each week during the pandemic spring of 2020, teachers at LaPoint County Middle School estimated they spent at least 8 to 9 hours daily connecting with approximately 150 students per teacher using technology. The ultimate goal of this study was to investigate and provide insight into these middle level students' experiences and academic performance having chosen to participate in an online learning environment. The findings from this study will contribute to gaps in the scholarship on online learning by focusing on middle level students' learning experiences in a fully online environment.

CHAPTER 2: THEORETICAL FRAMEWORK and LITERATURE

This chapter contains the theoretical framework and an overview of literature of previous studies related to face-to-face (F2F), and distance learning.

Literature searches were conducting on various aspects of F2F and distance learning relating to engagement, choice, self-regulation, and attitudes of adolescent students. Most research is documented at the college and high school level. However, those characteristics are reflected in this study as a grounding reference point as they may apply to adolescent students.

Technology has become vital to all stakeholders in educational settings, in every educational system, in the United States and other parts of the world (Renes & Strange, 2011). No truer words can be written since the outbreak of novel coronavirus COVID-19 in the winter of 2020. Studies in related literature demonstrate the need for preparedness in the case of a pandemic in the direction of education (Basilaia & Kvavadze, 2020). Decisions in closing schools worldwide to protect adults (teachers) from severe or deadly critical infections due to the fear of contacting the coronavirus. Although as it was first reported that children were found to be protected from this virus, it was thought they could potentially become the sources that enabled the spread of the illness (Abdulamir & Hafidh, 2020). School closings fostered a need for districts throughout the southeast and the study district in particular to look at distance learning through a more focused lens for middle school aged students. No longer able to meet family needs with students in a face-to-face setting, leaders and teachers alike at the middle school setting began to think outside-the-box for distance learning instructional strategies and lessons which would not

only meet the State Academic Standards, but would provide engaging lessons to middle school students.

Commonly known as Generation Z, (students in this generation are born in the early 2000s) will reach adulthood in the second decade of the 21st Century (Merriam-Webster Dictionary, n.d.). These students are commonly considered digital natives (Bennett, 2012; Chaiklin, 2010; Dillon, 2007 & Palfrey & Gasser 2011). Most if not all, probably cannot remember a time when they did not have some type of device to play with or talk on. Palfrey & Gasser (2011) suggests that the current generation of children who were born into and raised in the digital world are coming of age, and soon our world will be reshaped in their image.

Theoretical Framework

Social Interaction, Cognition and Experiential Theories

Social Interaction

The theories of educators and psychologists, John Dewey and Lev Vygotsky were rooted in constructivism and emphasized that students are responsible for constructing their own understandings (Duckworth, & Curry 2010; Kivinen & Ristela, 2003).

John Dewey promoted student learning based on their individual interests and experience. (Dewey cited in Sutinen, 2008). Promoting active rather than passive learning in order to meet students' needs, and finding that "when we experience something, we act upon it" was at the core of Dewey's philosophy (Sutinen, 2008, p. 6). Education should be as much like adult life as possible (problem based and fun), causing intrinsic motivation for students to learn (Henson, 2003, p. 9).

Vygotsky (1978) introduced the Social Development Theory that focuses on the

interaction between children and their environments. Social interactions are important and working together to solve problems is more effective than trying to solve in isolation (Henson, 2003). Vygotsky posits that students have a *zone of proximal development* (*ZPD*), where "the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving… in collaboration with more capable peers" (p.86). Students have a ZPD where the challenging level of development an individual reach through social interactions, and can take place in a collaborative setting. For Vygotsky, (1978) the learning process requires the interactional space between the student and teacher to become active with dialogue and assistance to learn (Treemant, 2014).

Cognitivism

The Cognitive Theories that focus this study are Stage-Environment Fit Theory, Mayer's theory of multimedia learning and Universal Design for Learning (UDL). These are elaborated below.

Stage –Environment Fit Theory

Literature clearly reveals a gap in documenting experiences of middle level learners in a virtual educational environment. Eccles, Midgley, Wigfield, Buchanan, Reuman, Flanagan & Iver (1993) theorize Stage-Environment Fit links developmental stages of adolescence to environmental fit which is rooted in Vygotsky's (1978) sociocultural perspective on learning. Negative psychological changes develop as a result from a mismatch between needs of developing adolescences and opportunities afforded to them by their social environment. At its core, stage-environment fit theory states "students perform better when classroom environments are suited to their

developmental needs" (Eisenbach & Greathouse, 2020, p. 2) Sagan (2010) studied stage-environment fit and student autonomy and reported that a positive stage-environment fit includes students in the decision-making process. Phillips (2017) in examining characteristics of stage-environment fit, present positive outcomes when metacognition awareness and having a growth mind-set approach to teaching and learning exist.

Eisenbach & Greathouse (2020) conducted a case study approach to examine the phenomenon learner experiences in a virtual educational setting or if virtual education "fit" supports the developmental needs of middle level learners. Four themes emerged in their work framed by concepts in Stage Environment Fit theory--relatedness, self-efficacy, motivation, and autonomy (Eisenbach & Greathouse, 2020, p. 62).

- Relatedness- relationships, connections and interactions with teachers and peer encounters in a virtual classroom;
- Self-Efficacy- ability to navigate succeed in an online educational setting;
- Motivation- behavioral, cognitive, and emotional motivation in online learners:
    - Behavioral-students involvement in the learning tasks (effort, persistence, and concentration, attention, asking questions and contributing to class discussions (p. 62)).
    - Cognitive- students' investment in learning (self-regulation, being strategic)
    - Emotional- students' affective reactions to the classroom (interest, boredom, happiness, sadness, anxiety (p. 63)).
- Autonomy- "the ability to take charge of one's own learning in a virtual

classroom" (Holec, 1981, p.3).

Relatedness data revealed communication; strategies for contact, emotions, connection and synchronous engagement were important factors in student perceptions of their experience. There was a significant disconnect in student abilities to "cultivate deeper connections and interactions" with virtual peers (p. 5). Participants had a strong sense of self-efficacy in their ability to manage and navigate online course content. Motivation to focus on assignment completion, "own-pace" schedule, directing their own learning, and independence in choosing location, structure and length of time committed to assignments were positives of participants (p. 5)

Cognitive Theory of Multimedia Learning

Mayer (2005, 2009) posits the cognitive theory of multimedia learning comprised of instructional messages designed to reflect how the human mind works and how those messages lead to knowledge that is more meaningful. Based on three cognitive science principles of learning: dual channels (auditory, visual and verbal), each of the three channels has limited capacity for processing, and active learning. With this theory, people learn more deeply with pictures and words than from words alone, it supports how technology has enhanced learning (p. 31).

This cognitive theory of multimedia learning is guided by four criteria: theoretical plausibility, testability, empirical plausibility and relevancy (Mayer, 2005, 2009) explained below.

- Theoretical plausibility-the theory is consistent with scientific principles of learning;

- Testability-the theory yields predictions that can be tested in scientific research;
- Empirical plausibility-the theory is consistent with empirical research evidence on multimedia learning; and
- Relevancy-the theory is relevant to educational needs for improving the design of multimedia instructional messages.

Universal Design for Learning

Meyers, Rose, & Gordon (2014) introduced the Universal Design for Learning (UDL) approach to instruction. The UDL approach ensures instruction and assessment strategies address the why, how, and what of learning. UDL includes three components: multiple means of engagement, multiple means of representation, and multiple means of action and expression.

- Multiple means of engagement- foster collaboration, alternative accessible content sources, scaffolding, easily accessible.
- Multiple means of representation-multiple formats highlight critical information, simple navigation, provide feedback.
- Multiple means of action and expression-clarify assignments, flexible opportunities, discussion boards, provide choice, summative assessments.

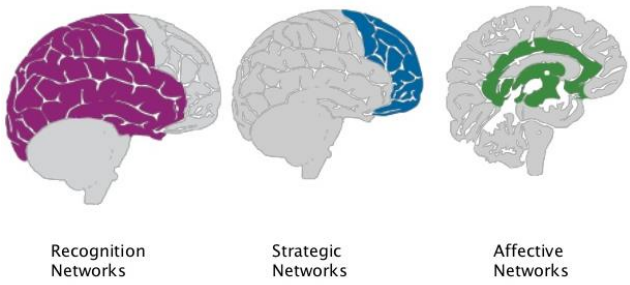
UDL is designed to "meet the needs of all learners through challenging instruction that is both flexible and varied" (Boothe, Lohmann, Donnell, & Hall, 2015, p.1). Each UDL principle aligns with a brain network and specifically addresses learning related to each network. These three types of networks can help reduce the cognitive load (Meyer, Rose & Gordon, 2014). This is helpful when students are expected to self-regulate.

Sustaining effort, persistence, and recruiting interest all help with the engagement and creating lessons that are purposeful and motivate learners. Teachers are encouraged to start small and choose one UDL practice until proficiency then adding another.

> The Recognition Network is the "what" of the learning and addresses how learners gather and categorize information. Sensing and perceiving information in the environment and transforms it into usable knowledge.
>
> The Strategic Network is the "how" of the learning. This network plans, organizes, and initiates purposeful actions in the environment and addresses what in which learners communicate their ideas.
>
> The Affective Network is the "why" and monitors the internal and external environment to set priorities, motivation, and engagement.

Figure 1

As Adapted from Lathan, 2020-Universal Design for Learning (UDL)



Marks, Sibley, & Arbaugh (2016) discuss the Learning Theory and Instructional Design perspective of UDL as, "a learning environment could be characterized by synchronous versus asynchronous learning, the degree of interaction between learner-learners, learner-teacher, learner-content, and learner-instructional media" (p. 537). In synchronous learning, the "instructor interaction behavior appears to be an important influence on web-based courses" (p. 536). In asynchronous learning, as the instructor becomes "more knowledgeable on how to behave toward students taking online courses,

… how to manage course content to enhance perceived and actual learning" (p. 552) and the more interactive experiences creates a "more effective delivery medium" to enhance student learning (p. 554).

Researchers in the Evergreen Education Group (2017) have estimated that as of 2016, more than 500 full-time virtual schools existed in the United States with 11% or 88,000 of the 800,000 enrolled being middle level learners in grades 6th-8th (Eisenback & Greathouse, 2020). Caskey & Anfara (2007) posit middle level learners demonstrate important physical, cognitive-intellectual, moral psychological, and social-emotional changes and needs during these adolescent years (10-15 years of age). Developmental changes in these years can affect both academic and personal outcomes.

Paradigm Shifts-Traditional Education to Distance, Online & Hybrid Education

Traditional Face-to-Face Learning (F2F) Environments

Historically, traditional F2F learning involves class sessions taking place 100% of the time in a "brick and mortar" classroom (Redmond, 2011, p. 1051). Delivery of instruction is "same place, same time" since both the teacher and student are in the same location (Redmond, 2011, p. 1051). Often in this setting, the teacher is the cliché "sage on the stage" holding and presenting all the knowledge on a subject matter while using technology to supplement the instruction. Interactions and communication between the teacher and students occur during class time or immediately before or after class (Hendricks & Bailey, 2016). Noticing non-verbal behavioral cues such as disengagement, frustration or disinterest in the learning are important in this type of learning environment (Surkhali & Garbuja, 2020).

F2F instructions allows students to not only build personal relationships with their teacher and peers, but also helps develop soft skills for career and college readiness. Soft skills are defined, as "skills, abilities and traits that pertain to personality, attitude and behavior rather than to formal or technical knowledge" need in career settings (Teng, Ma, Pahlevansharif, & Turner, 2019; Moss & Tilly, 1996, p. 253). Arriving to class on time, submitting an assignment when expected, getting one-to-one help from the teacher, and developing routines help keep students grounded in their learning are all also considered soft skills inherent in F2F instructional settings (Surkhali & Garbuja, 2020).

These benefits acclaimed in the literature through examples published by Chickering and Gamson (1987) as the seven principles of good undergraduate education; that upon review also apply to middle school setting expectations. Good practice encourages 1) student-faculty contact, 2) cooperation among students, 3) active learning, 4) prompt feedback, 5) emphasizes time-on-task, 6) communicates high expectations and 7) respects diverse talents and ways of learning (Chickering & Gamson, 1987).

Meyer (2007) compared graduate students' perceptions of F2F and written online discussions. The majority preferred face-to-face. Preeminent advantages for graduate students were emotional content, the energy, the fluidity, the ease, and the ability to ready non-verbal signs while getting immediate feedback.

Pierce (2017) in his study suggests, "Technology is not as good at giving robust feedback on a project where you're moving to much higher levels of Bloom's taxonomy. …it is not that great leading a Socratic discussion among students to reach higher levels of understanding. It's not as good as a teacher being able to understand the emotion of a

student and try a different approach in the moment to reach that student in a deep, one-to-one way" (p.18).

While traditional learning environments are the norm for the middle school age student, a continuing trend for community colleges and university are showing a growing number of students enrolled in online classes (Albert & Johnson, 2011). In 2011, Palfrey predicted, "Our economy, our politics, our culture, and even the shape of our family life will be forever transformed" (Palfrey & Gasser, 2011, p. 554). No truer a statement was realized when the COVID-19 state of emergency was declared in the state in which this study was conducted. The situation placed this generation in at the forefront of changing the way K-12 education is delivered. This past winter (2020), with the COVID-19 closure of public schools in the U.S. due to the pandemic, technology realized predictions and played at what Miller, Pfund, Pribbenow & Handlesman (2008) termed an "invaluable role in active learning" (p. 1329.)

Distance Learning

Definitions of distance learning developed in the 1990s are still current today. In the 1990s, Nasseh (1997) examined how a paradigm shift is occurring in the educational environment in the area of distance education (p. 1). Delling (1966) cited in Keegan (1996) defined distance education as a multi-dimensional system of learning and communication processes. Keegan (1996) posited distance learning as "anytime the teacher and students are separated by time, space or both" (p. 9). Keegan (1996) implies instruction via nontraditional means is also considered distance learning (Federioc, 2000). Similarly, Homberg (1986) as cited in Krüger-Ross, & Waters (2012) defined distance learning as "various forms of study at all levels which are not under the continuous,

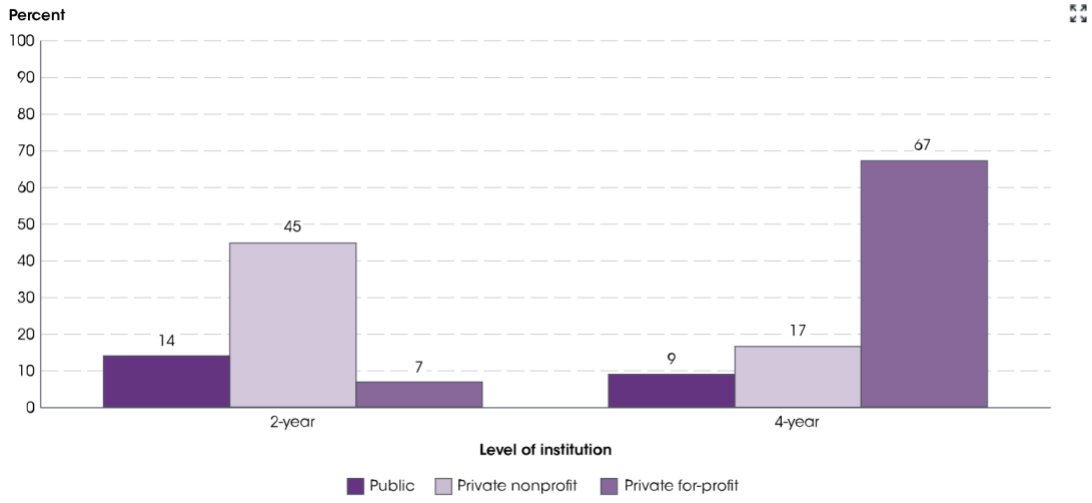
immediate supervision of tutors present with their students in lecture rooms or on the same premise, but which, nevertheless, benefit from the planning guidance … of a tutorial organization" (p. 177).

Moore (1989) defined three types of interactions that take place in distance education: learner-content, learner-instructor, and learner-learner. Learner-content is a defining characteristic of education. The process of "intellectually interacting with content that results in changes in the learner's understanding." Learner-instructor is the act of interaction between the learner and the expert who prepared the instructional material or some form of curriculum. Learner-learner is the third type of interaction of "inter-learner interaction, between one learner and other learners alone or in group settings, with or without the presences of an instructor" (p. 9). Garrison and Akyol (2008) looked at elements in distance education, which affect learning: social presence, teacher presence, and cognitive presence. Both studies stress open communication, group cohesion with interactions, and exploration with content, group identities, and collaboration. While all of these defining elements help us understand, what distance-learning is, without the evolution of technology, communication, and the need to eliminate the "brick and mortal barriers" distance learning would not have come to fruition (Nguyen, 2015, p. 309).

In analyzing learner outcomes however, no significant differences between distance learning, and traditional classroom settings existed, and findings indicated that each had equal effectiveness (Lewis, 1998; Nsiah & Oti-Boadi, 2015; Simonson, Schlosser, & Orellana, 2011; & Zhao, Lei, & Yan, Lai, & Tan 2005). These findings show promise to this new method of learning, and teaching.

The National Center for Educational Statistics (2018), examined the rapid growth of distance learning in higher education institutions has increased from 50% to approximately 65% of enrolled students take distance learning classes. The evolution of distance learning has been defined in literature by the consistent growth in technology and how that affected post-secondary institutions. An early study commissioned by the US Department of Education (1995) found one-third of public and private institutions offered distance learning classes (Lewis, Alexander, & Farris, 1997). NCES (2018) finds that an examination of NCES (2018) fast-facts in educational statistics determined "total undergraduate enrollment is projected to increase by 2 percent (from 16.6 million to 17.0 million students) between 2018 and 2029."

Table 1. *Adapted from NCES (2020) Percentage of undergraduate students at degree-granting postsecondary institutions who enrolled exclusively in distance education courses, by level and control of institution: Fall 2018*



Following this trend of growth in distance learning, NCES reports that in 2018, 12.8% of the nation's middle schools offered courses entirely online with zero reporting all courses offered online.

As distance learning research is lacking at the middle school level, we can examine research at the college level to get a glimpse of what K-12 schools need address when implementing this type of learning. At the graduate level, there is a positive association between distance learning in the jurisdiction of student satisfaction, interaction with instructor, and quality of learning (King, 2002; Lewis, 1998; & Mielke, 1999).

Online Learning Environments

In the 1990, as online learning was becoming a feasible method for instruction due to advances in computer hardware, software and Internet infrastructure, educators began to distinguish between synchronous (face to face) and asynchronous (online/distance/virtual) learning environments. In 1997, Hiltz and Wellman defined synchronous learning (SL) as a traditional learning environment that is limited by time (fixed schedule) and place (specific room). SL's advantages were noted at that time to be immediate face-to-face interactions between learner and teacher, peers, and content. These were supposed to "motivate an interest in learning and to reinforce the knowledge acquisition process" (Nguyen & Zhang, 2011, p.25). Proximity in the synchronous was also thought to create a sense of belonging and an exchange of emotional support (Hiltz & Wellman, 1997).

Asynchronous learning, (online/distance/virtual) has the benefit of unlimited access to class contents/materials unconstrained by time or place. (Nguyen & Zhang, 2011, p. 25). Flexible schedules and self-pacing are cited as advantages to this type of learning environment. Communication and immediate feedback from instructors were noted as concerns for students (Nguyen & Zhang, 2011). Real-time online feedback with

instructors and peers improved with the availability of Internet broadband, and with the development of Internet-based communication technologies, (Karacapilidis, 2010; Nguyen & Zhang, 2011). However, as previously mentioned the COVID-19 pandemic that began in spring 2020 exposed many gaps in access to broadband, particularly in rural areas.

Fully Online Learning at the K-12 Levels

The National Teacher Association (NEA) (2017) addressed online learning as "personalized learning instructional environment that enables teachers to tailor instruction to each individual student, thereby focusing on a "student's academic strengths and weaknesses, interests and motivations, learning style, preferences, and optimal pace of learning" (Walker, 2017, p. 4). According to the 2010 National Education Technology Plan issued by the US Department of Education, personalized learning puts "students at the center and empowers them to take control of their own learning by providing flexibility on several dimensions" (Walker, 2017, p. 4). In 2017, the plan considered the flagship educational technology policy document for the United States articulates a vision of equity, accessibility, personal learning opportunities, and relevance to the learner through collaborative leadership can make everywhere, all the time learning possible (South, 2017).

Online learning began as an asynchronous activity according to the National Center for Educational Statistics (NCES) (2008) involving college level students posting responses on discussion boards (Krüger-Ross & Waters, 2013). Larreamendy-Joerns & Leinhart (2006) proposed a formal definition of online learning as "instruction through a

connection to a computer system at a venue distance from the learner's personal computer" (p. 568) (cited in Krüger-Ross & Waters, 2012).

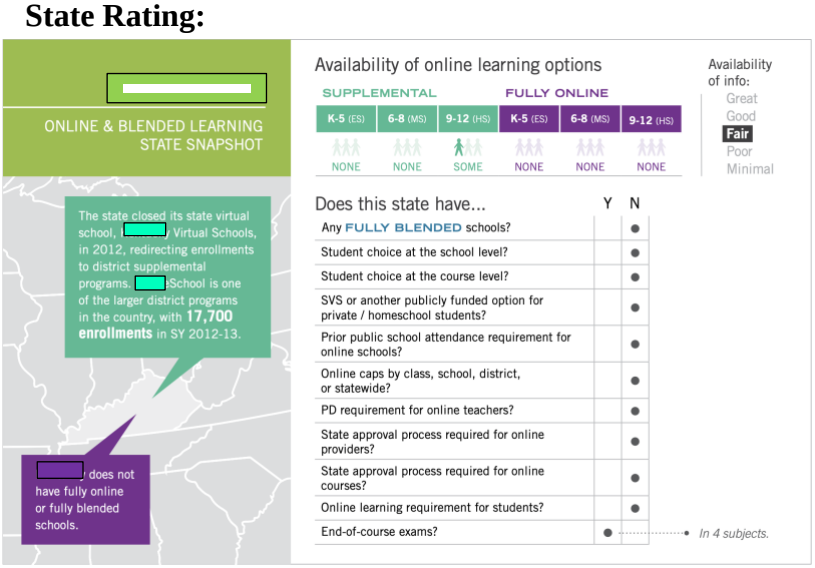
Greener (2010) provides her formal definition for online learning as "online reality provides for a pliable environment which can become a learning place tailored to the needs of the learner" (p. 258). Supporting that idea, The US Department of Education defined online learning as "learning that takes place partially or entirely over the Internet" (Means, Toyama, Murphy, Bakia, & Jones, 2010, p. 30).

In 2013, the International Association for K-12 Online Learning (iNACOL) decided to include the teacher in their formal definition of online learning. Any "teacher-led education that takes place over the Internet, with the teacher and student separated geographically, using a web based educational deliver system that includes software to prove a structured learning environment" also qualifies as online learning (Watson, Murin, Vashaw, Gemin, & Rapp, 2013, p. 8).

Research continues to show that online learning opportunities at the K-12 level are growing exponentially (Hooie, 2012). All states in the United States are offering some type of online learning opportunities whether fully online, blended or hybrid (Hooie, 2012; Kennedy and Archambault, 2012). The National Center for Education Statistics (NCES) (2018) most recent data indicates in 2017-2018, 21% of public schools offered courses entirely online. Public middle schools reported that 12.8% offered at least one online course; while there were zero reports of all classes offered online. Likewise, from the fall of 2015 to the fall of 2016 the total distance-education courses at the graduate level increased from 5.9 million to 6.3 million. This indicates that online

learning for college level students is also on steady rise, making it essential for K-12 educators to incorporation more online learning into their curriculum.

Figure 2. *Adapted from* *Evergreen Educational Group. (2017)* *Keeping Pace with K-12 Online and Blended Learning*



COVID-19 changed the face of schools examined in this study, and the availability of online learning. After examining the trends across the US and the immediacy of going online during the pandemic, it is now essential for the State's leaders to reevaluate where the future of online learning is headed.

Hybrid Learning

Heinze and Proctor (2004) defined hybrid learning as learning that "facilitates an effective combination of different modes of delivery models of teaching and styles of learning and is based on transparent communication among all parties involved in a course" (cited Akkoyunlu & Soylu 2008, p. 183). Finn and Bucceri (2004) surmises that hybrid by definition "brings traditional physical class with elements of virtual education together" (p. 183). The emergence of a hybrid environment is compelled by change in the educational practice (Zitter, & Hoeve, (2012). Goodyear (2001) adds the environment

consists of both onsite and digital settings where the learner (cited Zitter, & Hoeve, 2012) can carry out activities.

As government regulations allowed students to re-enter buildings during the fall of 2020, districts faced new challenges to create a hybrid learning environment that required rethinking the current traditional and fully online environments that occurred in the fall and spring of 2020. With the ban of physical contact, school and bus capacity issues and sanitation guidelines along with ratios of students per square feet (1:6), and bus capacities were implemented; creating a hybrid model for adolescents became a necessity. The design of the hybrid model offered by LCPS district is discussed in Chapter 3.

Characteristics of Learners for Distance Learning Success

Learner's characteristics can be defined as individual mental factors (psychological, behavioral, and attitude) which may affect learning activity (Nakayama & Santiago, 2012). Motivation, efficacy, thinking style, learning skills, and socio-culture factors have been identified to improve online learning (Song, Singleton, Hill, & Koh, 2004; Lim & Kim 2003; Dabbagh, 2007; Prinsen, Volman & Terwel, 2007). Hung, Chou, Chen, & Own (2010) posit there are five key traits that successful distance learning students possess: self-directed learning, motivation for learning (awareness and interest in the topic), Internet self-efficacy, learner control, and communication self-efficacy.

A study through the Institute of Higher Education Policy (1999) assessed the effects of distance learning and notes that "learner characteristics are major factors in the achievement and satisfaction levels of distance learners" (cited in O'Hanlon, 200, p. 6).

Engagement, agency, and assessment are multiple underlying components to defining and assessing student learning and satisfaction (Dziuban, Moskal, Thompson, Kramer, DeCantis, & Hermsdorfer, 2015).

Student Engagement

Dixson, 2010; Laouwrens & Hartnett (2015) recognize perceptions and student engagement as important components in all teaching and learning (Dixson, 2010; Laouwrens & Hartnett, 2015). Likewise, Harris (2008) endeavored to defined student engagement. He notes there is a general agreement that student engagement is not always understood; however, although "student engagement produces positive outcomes, defining the concept is problematic as there is disagreement about what counts as student engagement" (p. 58).

Commonalities in research on student engagement include behavioural, cognitive, and emotional engagement (Fredricks, Blumenfeld & Parris, 2004; Laouwrens & Hartnett, 2015). Doing what is required, attendance at school or class, and meeting the teacher and school's expectations are generally referred to as behavioural engagement. Any personal investments students make in their own learning when there is deep, focused strategic thinking refers to cognitive engagement. Finally, when there is a positive reaction to school or class environments, and their own learning, emotional engagement occurs.

Swan and Shih (2005) add *social presence* as a factor when the learning is occurring online. Social presence is the degree to which a feeling of connectedness occurs between online participants. Gibbs and Poskitt (2010) note that social presence is a requirement for cognitive engagement (Louwrens & Hartnett, 2015).

Garrison, Anderson, and Archer (1999) include *teaching presence* as "encompasses the design and facilitation of the educational experience" (Louwrens & Hartnett, 2015). Facilitation in an online learning experience is the teacher's responsibility and designing activities that students enjoy positively influences student engagement (Wood, 2012; Louwrens & Hartnett, 2015).

Student Choice and Agency in Learning Environments

While student choice of fully online learning in environments in the high school and post-secondary arenas is not a new concept, middle school level public education systems are just now revamping their entire systems to include fully online learning environments for all students. COVID-19 affected the learning environments of middle school students in the spring of 2020, and continued through the fall of 2020 when they and their parents had some choices to make regarding learning environments for schooling. Researchers in education have regularly studied the impact of learning environments in relation to learning outcomes (Ya Ni, 2013). Ramsden and Entwistle (1981) empirically identified a relationship between learning environments to student learning and perceived characteristics of the academic environment (cited in Ya Ni, 2013). Helping students to make the choice of online learning over the traditional F2F environment are factors of convenience, flexibility, currency of material, customized learning, and feedback (Swan, Shea, Fredericksen, Pickett, Pelz, & Maher, 2000).

Bandura stated that "To be an agent is to influence intentionally one's functioning and life circumstances" (2006, p. 164). Likewise, Vaughn (2018) defined agency as referring to "a student's desire, ability, and power to determine their own course of action" in different ways (p. 63). In the fall of 2020, LaPoint County Middle School students had

a choice that will influence their life circumstances by learning in a fully online educational setting. They will be the agent to choose their course of action in selecting their preferred learning environment.

Learner Satisfaction with Online Environments

A significant body of research has focused on learner satisfaction in online environments, although there is little specific to middle level students. Tunison and Noonan (2001) studied 50 high school students in Saskatchewan, Canada and assert, "students were generally satisfied with their online learning environment and experiences" (p. 507). Autonomy, flexibility, freedom, and being able to "work ahead" where positives of a virtual school environment. Virtual classroom environment, email, discussion forums were communication tools identified as main factors that contributed to learner satisfaction. But, for some, these tools nonetheless are a poor substitute for the kinds of interactions experienced in a F2F environment (Barbour, Siko, Sumara & Simuel-Everage, 2012).

Research on developing a Community of Inquiry (Garrison, Anderson & Archer, 2000) defines the "social, cognitive, and teaching presence as being essential to the student learning experience and, thus, student satisfaction" (p. 2). Likewise, the Online Learning Consortium.org has two decades of research devoted to understanding how student define excellence in their learning environment. Rubin, Fernandes & Avgerinou (2013), extended this body of research focused on contributors to student satisfaction to include student perceptions of community.

Student interactions are highly correlated to both F2F and online learning environments (Kuo, Walker, Belland & Schroder, 2013). Ke and Kwak (2013) posit five

elements identified to affect student satisfaction are learning relevance, active learning, authentic learning, learner autonomy, and technology competence.

Gender differences are also reported in students' reports of online learning satisfaction (Kay, 2008). His research suggests males were more comfortable with computer usage and had a higher use intensity. Opposed to that, Gonzales-Gomez, Guardiola, Rodriguez, & Alonso (2012) asserted that females displayed a higher satisfaction than males with online learning. González-Gómez, Guardiola, Rodríguez, & Alonso (2012) at the University de Granada, surveyed 1185 students to analyze the differences levels of satisfaction male and female students had with e-learning classes. Data show female responses indicated a "greater degree of satisfaction with their e-learning experience. These findings conflicted with previous research showing higher rates of satisfaction among male students.

Lu and Chiou (2010) e-learning evaluation and satisfaction study are greater among male students than female students (cited, González-Gómez, Guardiola, Rodríguez, & Alonso, 2012). Five hundred and twenty-two university students indicated their perceptions of learning styles, and satisfaction with e-learning. Data point toward both gender and job status as greatly influencing the perception on predictors.

Cole, Shelley, Swartz (2014) extended the study of learning satisfaction by surveying 422 graduate students using a 5-point Likert scale on their satisfaction with their distance learning course. Results found that the mean score for positive satisfaction for their distance learning course was 1.41 for males and 1.31 for females. These findings correlate to most studies the researcher examined where male students have higher satisfaction rates.

Adolescent Attitudes and Online Learning

Winston Churchill is credited with saying, "Attitude is a little thing that makes a big difference" (Orr, Naumann & Escobar 2008). Likewise, learners' attitude, literacy and learning strategies affect their learning performance (Nakayama, Yamomoto & Saniago, 2007). Thus, examining student attitudes toward learning environments is essential to understand difference in academic achievement and student satisfaction with online learning. Solmon (2003) concurs and found that one aspect that influences achievement is student attitude toward learning online. Young and Nogard (2006) state that "in order to assure quality and consumer satisfaction, institutions and their faculty must pay close attention to their students' perceptions of online courses and programs" (p. 113).

Researchers having an interest in students' points of view developed a number of instruments to gauge perceptions of online learning. The Online Learning Environment Survey (OLES) was derived from five instruments, which measured students' perceptions of eight different components of online learning (Trinidad, Aldridge & Fraiser, 2004). These were computer usage, teacher support, student interaction and collaboration, personal relevance, authentic learning, student autonomy, equity, and asynchronicity.

While little research is available on middle school students' attitudes toward traditional and online learning, this study used the investigations that were available to glimpse into attitudes toward learning in each environment. Hughes, McLeod, Brown, Maeda, & Choi (2007) examined high school students enrolled in a traditional and an online Algebra I course. They found traditional students had greater perceptions of student cohesiveness, involvement, and cooperation; while virtual students perceived

greater teacher support. Their results reveal the importance of students' understanding the "instructional and learning milieu" and how teacher interactions differ between traditional and virtual mathematics courses (p. 209). Examples given were the varying perceptions on "my teacher checks in with me" (p. 209).

Johnson (2011) posits it is important for researchers to understand the characteristics of students participating in online learning and how they may influence learning outcomes that are achieved.

Baratsas, Kasimatis, and Gialamas (2009) examined middle school and lower high school students' connections between technology attitudes and proficiencies with achievement in mathematics. Their work assists in getting an inside look at middle school students' thoughts and feelings toward technology. The results indicate a strong correlation exists between technology comfort/attitude, and academic success.

Macintyre & Macdonald (2011) looked at interactions between students and the instructor in online settings. Their research indicated that some students taking online courses felt isolated and lonely. Students who value interacting with the instructor and their peers usually are at a disadvantage in an online learning environment (Beard & Harper, 2002.).

Self-Regulated Learning and Students in Fully Online Instruction

Due to the rapid response to close schools and change learning venues from F2F to online instruction necessitated by the COVID-19 pandemic supervising and managing instruction also changed drastically. Responsibilities shifted away from primarily a role for the teacher to students and parents with no real preparation for the change. Students had to self-regulate their learning and parents had to manage learning tasks and outcomes

with no preparation to do so. Self-regulation in learning has been studied for decades in traditional and distance learning settings for higher education institutes (Lee & Tsai, 2011). However, few studies have looked at adolescent self-regulation with distance learning, although the need for self-regulation in online modalities seems intuitive with students of any age.

Zimmerman and Martinez-Pons (1990) surveyed 5th, 8th, and 11th grade students about their use of self-regulated learning strategies (Cantrell & Carter, 2009) in F2F learning. They find that girls reported using learning strategies such as record keeping, monitoring, environmental structuring and goal setting more willingly than boys do. Grounded in Bandura's (1986) triadic theory of social cognition, Zimmerman (1990) posited that students' efforts to regulate their learning involves three classes of determinants: personal processes, the environment, and their behavior.

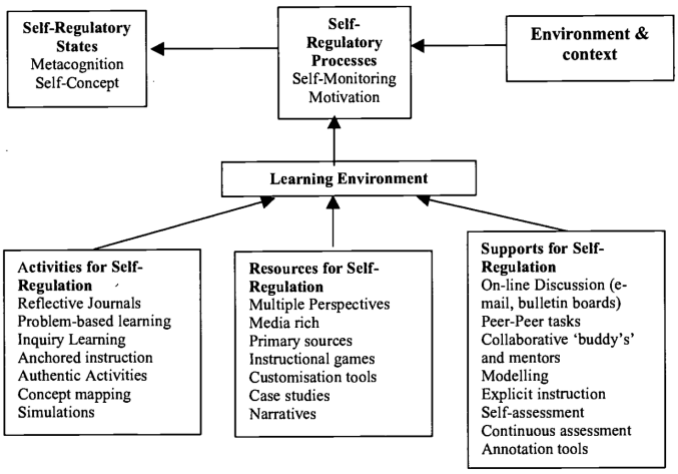
In identifying strategies students use to self-regulate their learning will help educators develop courses that keep students engaged not unlike that of the gaming world with immediate feedback, and interest (Ng, & Wiemer-Hastings, 2005). McMahon & Oliver (2001) note that university students must take greater responsibility for their own learning when they are in a distance learning setting as they have limited access to the immediate instructional support. Self-awareness is a precursor to self-regulation (McMahon & Oliver 2001). In their research, they cite Flavell (1987) in his identification of three types of metacognition: knowledge of self, knowledge about various cognitive tasks, and strategy knowledge. Further, as the product of self-regulation, a student is able to activate strategies that enhance their learning (McMahon & Oliver, 2001). University students who are self-regulated learners (O'Hanlon, 2001) value freedom and flexibility.

Likewise, Northrup, Lee, & Burgess, (2002) queried students to determine why they take online courses. Not surprisingly, they reported that they take them for the convenience and flexibility.

Online Environment Requirements

Oliver (1999) identified three components that are a vital part to the online learning process: learning supports, activities and resources. His self-regulatory process flow chart advocates the process of scaffolding and eventually fading teacher support.

Figure 3. *Adapted from Oliver (1999) ERIC 46194-Self-Regulatory Process of Motivation and Self-Monitoring).*



With the new learning model of LaPoint County Public Schools district in this study, support activities and resources were provided for the distance learner. Processes were planned for distance learners to speak with educational coaches when needed. A complete, stand-alone online software program, Odysseyware, was adopted to anchor instruction to support the fully online learner. Features available to the student learners included the ability to work at their own pace, and continuous assessment of content subject standards. In order to support the needed WIFI ports for rural areas in the community the district superintendent and technology coordinator met with the local

electrical service company and purchased hotspots access points through the Federal CARES COVID grant that had been received by the state.

Summary

The social learning theories that frame this study conceptually are educators and psychologists, John Dewey and Lev Vygotsky. Dewey promoted active rather than passive learning in order to meet students' needs and encouraged student learning based on their individual interests and experience. Vygotsky posits that students have a *zone of proximal development* (ZPD), and the learning process requires the interactional space between the student and teacher to become active with dialogue and assistance to learn (Treemant, 2014).

The cognitive theories that contribute to the conceptual framework are Stage Environment Fit Theory, Multimedia Learning and Universal Design for Learning. Through these conceptual lenses key learner and learning environment characteristics are drawn and the relevant literatures on these topics were reviewed.

This study examined the choice of either a traditional F2F or distance learning environments for middle level students necessitated by schooling options offered during the 2020-21 COVID-19 pandemic school year. The theoretical framework and relevant literature reviewed in this chapter will inform the methodological development of instrumentation presented in Chapter 3 (Methods) and the analysis presented in Chapter 4 (Findings) as well as the practical and theoretical Implications drawn in Chapter 5 (Discussion).

CHAPTER 3: METHODOLOGY

In this chapter, I present the study design, the context (setting), participants, instrumentation and analytic frames for this study. To remind the reader, the Research Questions that guided the study design and procedures were as follows:

The central research question was: Why did students choose an online virtual schooling experience to begin a full fall semester in middle school *after* having experienced the online virtual learning environments precipitated unexpectedly by the COVID-19 pandemic of spring 2020?

These sub-questions will be explored:

1. How were the middle school students involved in the decision to opt for a fully online fall 2020 semester?
    a. What were students' preferences?
    b. What are their previous online experiences and current experiences with *Odysseyware LMS used in the DLA?*
2. To what extent do the qualitative interviews validate, extend or conflict with the quantitative survey results?
3. In what ways do the perceptions of middle school students about their own learning; reveal successes and struggles in their chosen learning environment during the fall of 2020?
    a. How do they anticipate their performance will be in the online environment on their Math Unit 1 assessment?
    b. What results emerge from comparing the actual performance data between the students who chose the hybrid F2F environment versus

the online environment after taking the Mathematics Unit 1 assessment?

Context for the Study

The COVID-19 epidemic completely changed the face of education for not only LaPoint County Public Schools district, but also all schools nationwide. This study was conducted in the LaPoint County Public Schools district in the fall of 2020. Following the recommendations of the federal Centers for Disease Control (CDC) the state's Governor issued regulations on the types of learning environments that school districts could implement during the fall of 2020. Following these guidelines, the district offered both on-site hybrid and fully online distance learning environments for the 2020 fall semester.

The District's State Academic curriculum was the same for both online and hybrid on-site instruction. *Odysseyware*, an online learning management program, uploaded the State's Academic Standards into their program and delivered the same standards in the same order and timeline to the online learning academy. The hybrid environment, due to regulation set by the Governor during the COVID-19 health crisis, required students who participated engage in a 7-hour, 2-day instructional setting with certified teachers. The Distance Learning Academy (DLA) was the other milieu also with certified teachers monitoring completed work only and delivered online through Odysseyware. One incentive for families if they chose a fully online educational setting was the opportunity to have a laptop (one per family) provided by the district to each household who enrolled in DLA. This equipment offer was intended to ensure students

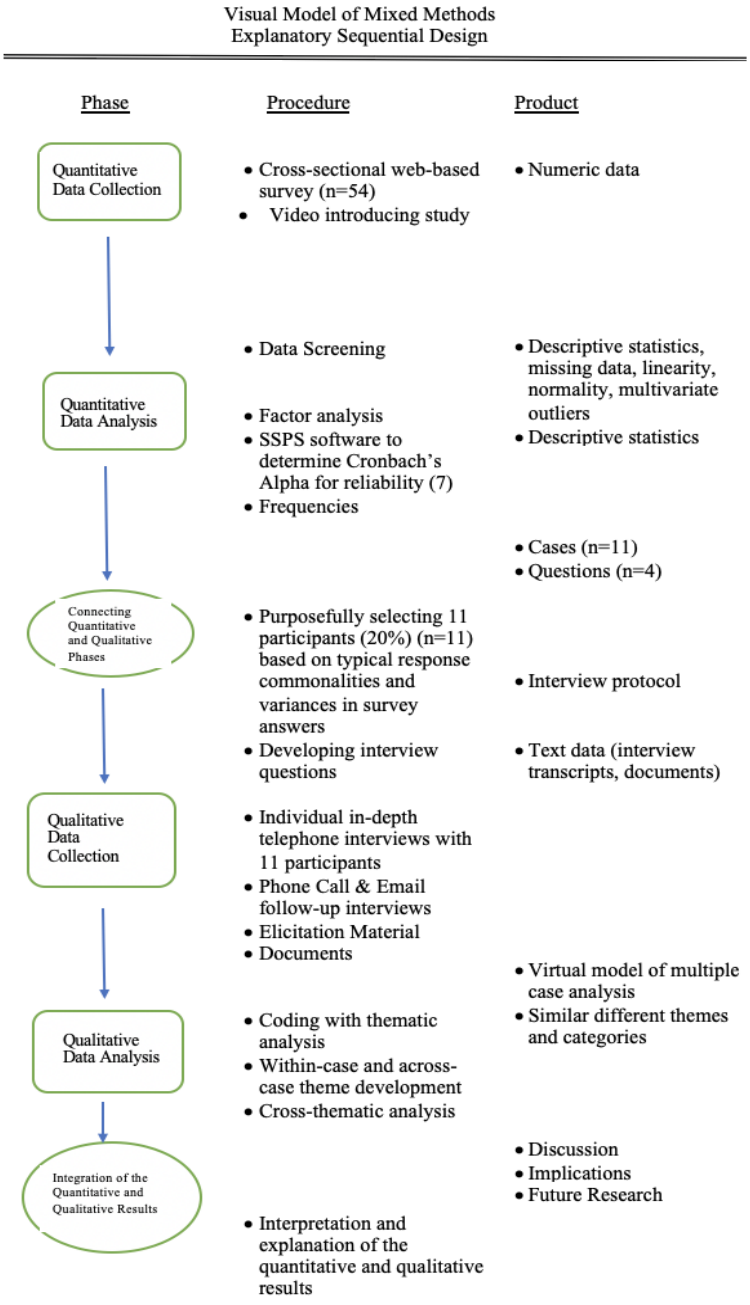
enrolled in the fully online setting had the necessary equipment to access the District's learning management system.

Using an explanatory sequential mixed methods design (elaborated below) gave the researcher a strong quantitative orientation in order to guide the qualitative strand (Crewell & Planco-Clark, 2011). This method also enabled the researcher to place "priority on the second qualitative phase in understanding the extent and what ways the qualitative results explain the quantitative results" (p. 84).

Research Design

The explanatory sequential design is distinguished as the most straightforward of the mixed methods designs (Creswell & Plano Clark, 2011). An explanatory sequential study involves both quantitative and qualitative data with the researcher starting the study with the quantitative research and ending with the qualitative research so they may follow up on the quantitative result by adding insight and depth to the overall research. According to Creswell, Plano Clark, Guttman & Hanson (2003) the overall purpose of this design is to use the qualitative data to explain the initial quantitative results. Figure 4 below summarizes the research phases, procedures and expected products for the design of this study adapted from Creswell, Plano Clark, Guttman & Hanson (2003). Assessing trends in this age group engaged in a fully online learning environment will add to the research on the preferences, struggles and experiences of online learning with the middle school aged student.

Figure 4. *Explanatory Sequential Design for the Study*



Setting for the Study

LaPoint County (pseudonym) is located in a mid-sized southeastern state. The World Population Review (2021) reports the county has a population of approximately 70,000 people and a national growth rate of -0.36%. LaPoint County's population has steadily decreased for the past 9 years. The National Center for Educational Statistics (2021) reports a median income of $47, 445 that is $4,850 lower than the state median income and $18,267 lower than the national US median household income.

This county hosts 14 total schools-8 elementary, 2 middle, 2 high, 1 technology high school and 1 alternative school. The two middle schools in LaPoint County serve grades 7 and 8 and draw students from both suburban and rural areas. The district's state report card indicates LCPS has an enrollment of 8,710 students in all grades with a student teacher ratio of 17:1. The district has a demographic student makeup of 50.3% Caucasian, 34.2% African American, 7.5% Hispanic and 8% other. Student groups identified as economically disadvantaged total 71.4%, and there are 189 English Language Learners enrolled in the district. The National Assessment for Educational Progress (NAEP) (2019) indicates that 38% of grade 4 students are proficient in reading and 34% at grade 8. Mathematics NAEP scores (2019) indicates that 40% of grade four learners were on or exceeded grade level expectation but only 29% in grade 8 made benchmarks.

During the COVID-19 health pandemic crisis in the spring of 2020 new options for the following fall 2020 semester were developed to keep students learning and schools open. A new fully online school named the Distance Learning Academy (DLA) was designed and created for the students in LaPoint County as a viable option for

student enrollment in the fall of 2020. This study included students from both middle schools who chose the new online DLA.

LPCS District's Learning Environments: Fall 2020

The Middle Level Hybrid Learning Environment: Fall 2002

LaPoint County Public Schools district created a hybrid learning environment for the fall of 2020. Students would attend school two days per week and learn from home three days per week. Students whose last names started with the alphabet letters A through K would attend in person learning on Monday and Tuesday with distance learning Wednesday through Friday. Students with last names starting with L through Z would attend in person instruction Wednesday and Thursdays and on Friday, Monday and Tuesday they would learn from home. During onsite days, students attended regular scheduled classes. Sanitizing of desks and chairs occurred before each class change. Students also used hand sanitizer before going in to each classroom.

Parents were given information on daily schedules and the Healthy at School guidelines that were implemented. This information was shared via school and district websites. Parents could access daily grades, mid-term grades and final grades through Infinite Campus, the district's online student information and grading portal.

Students in the hybrid setting would learn through both Canvas, an online learning management software system where teachers would download video, Google Slides, and activities for completion and submission to the teacher. Canvas and Infinite Campus would synchronize each night updating grades and assignments.

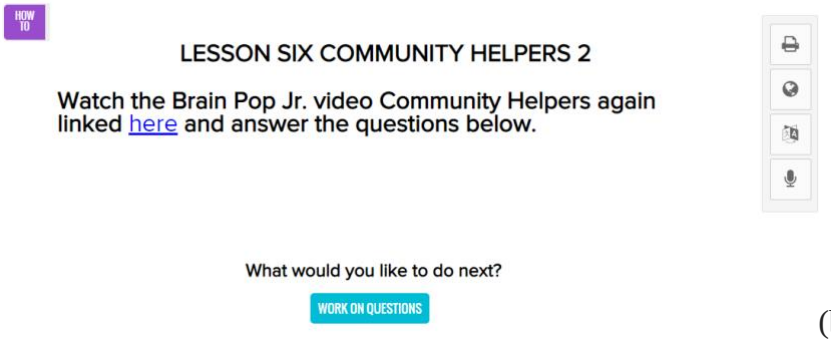
The Middle Level Fully Online Learning Environment: Fall 2020

Students were expected to work daily through Odysseyware. Every middle school student was assigned six courses- Math, Reading, Science, Social Studies, Finance, and Arts and Humanities. Figure 5 below shows screenshots of the Odysseyware fully online interface for that students used for their online learning environment.

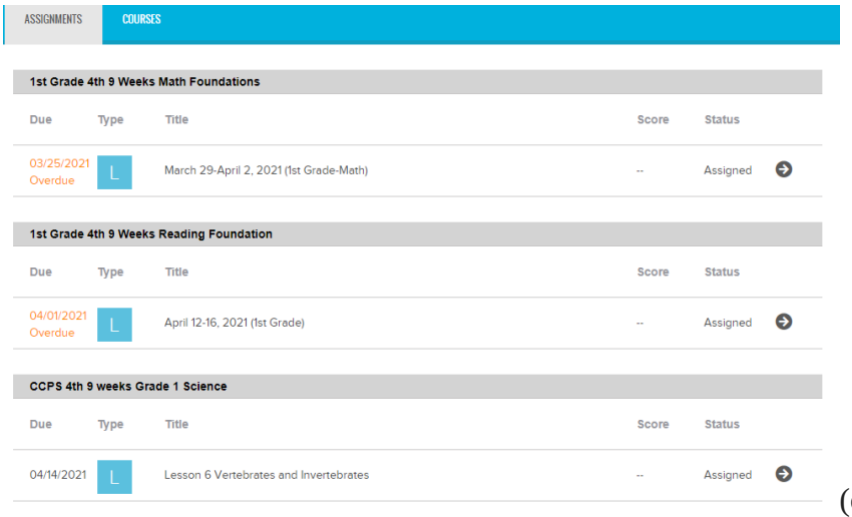
The main Introductory screen at Odysseyware students' login (a), the lesson prompt (b) assignment submission screen (c) and the unit grade posting screen (d).

Figure 5. ***Students' View of Odysseyware Interface***

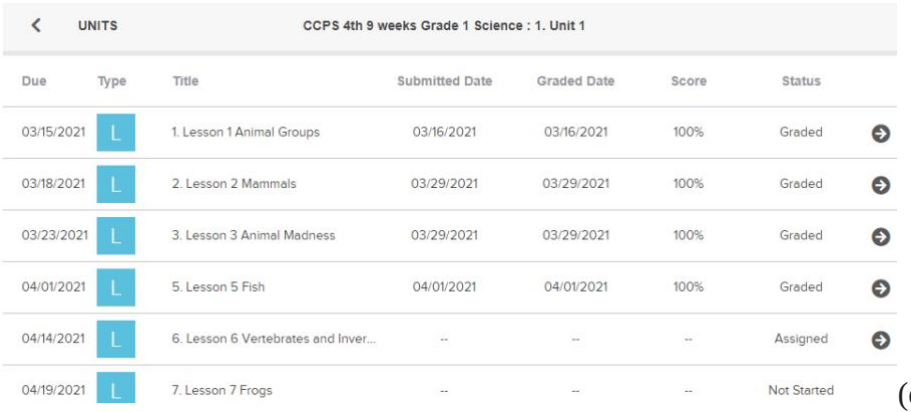
(a)



(b)



(c.)



(d)

Likewise, parents in the distance learning setting were given information on what their child was expected to learn at home on Odysseyware. Parents could access how-to videos located on the district website. Parents could access a progress grade and final nine-weeks grade in Infinite Campus but did not have access in Infinite Campus to individual assignments grades that were completed by students in Odysseyware.

Participants

A purposeful sampling procedure involves choosing participants and sites for a study that can lead to an understanding of the problem being researched (Creswell, 2007). With COVID-19 changing the learning environments of all state students in the spring of 2020, there was a unique opportunity to study trends, preferences and experiences with

online learning with middle school students. At the time of the study, LaPoint County Public Schools had 447 students in grades 7 & 8 registered for the DLA. These students are typically between the ages of 12-14 years of age. Students who would normally attend LaPoint County Public Schools in a traditional setting but chose the DLA during the fall of 2020 retained their State designated A1 school status in LaPoint County Public Schools and serve as the sample population of students for this study. A State A1 school designation is the school where a student is zoned and in which they are enrolled when they attend a public school in the State. Multiple approaches (email, mailings, and Infinite Campus universal calls) were used to contact all potential 447 respondents in DLA. The consent and assent forms for the study were mailed to those 447 potential respondents in grades 7 & 8 enrolled in the Distance Learning Academy (DLA). The quantitative study selected all students whose guardians agreed and signed the consent and students signed assent forms to participate. Fifty-four (54) respondents agreed to participate that constituted a rate of 12.08%. of the overall DLA population. In the qualitative phase, 11 students (20%) of the quantitative phase students were chosen to expand upon the findings from surveyed students in phase one. Interview selection criteria focused on whether or not the student had been involved in the decision to choose F2F or fully online instruction (see below).

It is important to note that during this same period, the district had already sent out three different parental input surveys to gather parental perspectives on COVID-19 health concerns, Title I Parent Involvement and a Trauma Informed Care information tool. This situation may have contributed to lower response rates and response fatigue.

The analysis of data in the quantitative phase guided the qualitative phase. The qualitative interview questions were designed after identifying specific results from the quantitative phase. This procedure determined where follow-up information was needed, (Creswell & Plano-Clark, 2011). Through phone interviews, these purposefully selected participants were interviewed to help explain the quantitative results. The eleven student respondents (20%) were chosen to participate in the qualitative phone interviews. Half of the qualitative interview selection students who reported they were involved in the decision for online learning and half were selected from the ones that were not involved in the decision-making process. Moreover, selection criteria also involved an analysis of quantitative survey data, information on family makeup and educational services (i.e. General Intelligence, Gifted and Talented, Special Education, English Language).

As shown in Table 2 below, and according to the Infinite Campus the district data-collection tool, the gender and ethnicity of the total population sample was as follows:

Table 2. *Ethnic and Gender Makeup of Students for Quantitative Study (n=54)*

Ethnic Origin:	Male #	Female #
American Indian/Alaskan Native:	0	0
Asian:	0	1
Black/African American:	10	11
Hispanic/Latino:	1	3
Native Hawaiian/Pacific Islander:	0	0
White/Caucasian:	12	12
Other or Unknown:	2	2

Note. Obtained from Infinite Campus on 12/15/20.

Table 3. *Ethnic and Gender Makeup of Students for Qualitative Study (n=11)*

Ethnic Origin:	Male #	Female #
American Indian/Alaskan Native:	0	0
Asian:	0	1
Black/African American:	1	2
Hispanic/Latino:	0	1
Native Hawaiian/Pacific Islander:	0	0
White/Caucasian:	3	3
Other or Unknown:	0	0

Note. Obtained from Infinite Campus on 12/15/20.

Demographic information provided coded data, and access to Infinite Campus to create a solid profile of the students who took the survey (see Table 2). This section provided background information to better understand the participants. Birth month, birthday, grade level, and gender information were collected as part of the demographic data. Infinite Campus provided ethnicity, family structure, any resources received in their educational setting. Finally, students' 2019 and 2020 first nine-week mathematics final averages, and 2019 testing data were used to answer research question 4.b.

As illustrated in Table 2, among the 54 participants, 28 were in grade 8 (51.9%) and 26 were in grade 7 (48.1%), 29 were female students (53.7%) and 25 were male students (46.3%). Infinite Campus the researcher was able to look up the biological age of students as shown in Table 2. Student ages ranged from 11 to 14 years. One (1.9%) student was 11 years of age, 9 (16.7%) students were 12 years of age, 36 (66.7%) students were 13 years of age, and 8 (14.8%) were 14 years of age. The mean age group of the students was 12.94 years. Table 4 summarizes these demographic data.

Table 4. *Quantitative Sample Demographics (n=54)*

Categories		No.	Percent %
Grade	8	28	51.9
	7	26	48.1
Gender	Female	29	53.7
	Male	25	46.3
Student Age	11 Years of Age	1	1.9
	12 Years of Age	9	16.7
	13 Years of Age	36	66.7
	14 Years of Age	8	14.8

Sample Demographics: Qualitative Interviewees

This section provides demographic information on the participants. Specifically, their grade level, gender information, family home structure, ethnicity and levels of interventions provided to these students are provided. The researcher was also had access to 2019-2020 information on the first nine-weeks math final grade achievement and Unit 1 Mathematics Common Assessment scores.

As shown in table three, qualitative interviews were conducted with 11 (20%) students after analyzing their responses to the quantitative phase in the explanatory sequential study. Of the eleven (11) participants, 6 were in grade 8 (54.5%) and 5 were in grade 7 (45.5%), 7 were female students (63.6%) and 4 were male students (36.4%). All qualitative phase two students were either 12 or 13 years of age. Infinite Campus provided family structures for the researcher. There were five family structures identified: natural single parent, multi-generational, natural parents & stepparent, both natural parents, other (guardian or grandparent). In examining the family makeup of students in phase two, 3 (27.3%) students lived in a natural single parent home, 2 (18.2%) students lived in a multi-generational home, 1 (9.1%) student lived in a natural parent and step-parent home, 4 (36.4%) students lived in a natural two parent home, and 1 (9.1%)

student lived in an "other guardian" home. In creating a whole picture of the phase two participants, the researcher used Infinite Campus to examine any educational resources any of the students may receive. Of the 11 students, 1 (9.1%) was labelled general intellect and gifted and talented, two (18.2%) students were labelled with gifted and talented label. In order to obtain that standing, students must have scored in 96% percentile on a nationally normed test or in the 9th stanine. Special Education (SpEd) or Response to Intervention (RtI) services were identified as resources for 4 (36.4%) of the students. Student ages in the second phase of the study ranged from 12 to 13 years of age. There were two (18.2%) 12-year-olds and 9 (81.8%) 13-year-olds. There were no 11 or 14-year-old students in the qualitative study.

Table 5. *Qualitative Sample Demographics (n=11)*

Categories		No.	Percent %
Grade	8	6	54.5
	7	5	45.5
Gender	Female	7	63.6
	Male	4	36.4
Family Makeup	Natural Single Parent Home	3	27.3
	Multi-Generational Home	2	18.2
	Natural Parent & Step-parent Home	1	9.1
	Natural Two Parent Home	4	36.4
	"Other" Guardian Home	1	9.1
Educational Services	General Intelligence & GT	1	9.1
	Gifted and Talented	2	18.2
	Special Education / 504	1	9.1
	Response to Interventions	3	27.3
	No Services	4	36.4
Student Age	11 Years of Age	0	0.0
	12 Years of Age	2	18.2
	13 Years of Age	9	81.8
	14 Years of Age	0	0.0

Phone Discussion with the DLA Faculty Member

After analyzing both instruments, it was apparent that the researcher needed to understand the role of the DLA teacher. A phone discussion with a middle school DLA teacher, who has several years of teaching experience, provided me with the necessary information regarding their professional development, student caseloads, and expectations as a teacher in a distance learning environment.

Learning from Home: Interviewees' Biographies

In this section, I present the biographies of the students interviewed in the qualitative phase two of the study. Eleven students, seven girls and four boys were interviewed by phone. I used demographic data available in Infinite Campus, the district

attendance and grading database to ascertain that this sample of 11 interviewees represented participation across Caucasian, African American, Asian, and Hispanic ethnicity groups. Moreover, represented were an array of family structures ranging from single parent to multi-generational households.

Students Involved in Choice numbers and those who were not.

Six students (54.5%) (Kera, Donny, Russell, Brianna, RaShaun, and Laura) selected "strongly agree or agree" when asked on Question 17 if they active role in choosing their learning environment, and five students (45.5%) (Annah, Frank, Ashley, Nazzie, and Lisa) selected "disagree or strongly disagree" to the same question.

Student #1: Kera (pseudonym)

Kera is a white, female 8th grade student in DLA. She lives in a single parent home with her mother and three other siblings and is the oldest of all the children. In 2019, her first nine-week grade for mathematics was an 82(B). In 2020, her first nine-week's grade in mathematics was a 74 (C). NOTE: Interview of Kera occurred in December of 2020 when she was a DLA student. After 18 weeks in DLA, failing 4 or more classes she was removed by the district in January of 2021. Kera is now attending the hybrid school setting at LaPoint County Middle School where her 3rd nine-week current grade in mathematics as of January 30, 2021 is an 89 (B).

Student #2: Annah (pseudonym)

Annah is a female, Asian (India) 7th grade student in DLA. She lives in a multi-generational home with her sister, parents and grandparents. She is the youngest in the household. She is identified as GI (general intellectual ability and GT (gifted and talented) in the areas of Language Arts. In 2019, her first nine-week grade for

mathematics was a 97(A). In 2020, her first nine-week grade in mathematics was a 66(D).

Student #3: Donny (pseudonym)

Donny is a white, male 8th grade student in DLA. He lives in a two-parent home with two brothers. He is the oldest of the children. He is identified as GT (gifted and talented) in the area of leadership. In 2019, his first nine-week grade for mathematics was a 97(A). In 2020, his first nine-week grade in mathematics was an 86(B).

Student #4: Russell (pseudonym)

Russell is a white, male 7th grade student in DLA. He lives in a two-parent home with two brothers. He is the youngest of the children. In 2019, his first nine-week grade for mathematics was a 96(A). In 2020, his first nine-week grade in mathematics was a 93(A).

Student #5: Frank (pseudonym)

Frank is a white, male 7th grade student in DLA. He lives in a two-parent home with one other brother. He is the youngest of the children. Both he and his brother (an 11th grader) are in DLA. He is identified as GT (gifted and talented) in the areas of Language Arts and leadership. In 2019, his first nine-week grade for mathematics was a 98(A). In 2020, his first nine-week grade in mathematics was an 87(B).

Student 6: Brianna (pseudonym)

Brianna is a female African American 8th grade student in DLA. She lives in a single parent home with one younger sibling. Brianna is serviced as a student with an Individual Education Plan (IEP) and is serviced in the areas of: Math, Reading and Writing. She receives added resources services for 45 minutes daily in an online setting

with a district special education teacher. She is also an athlete and was able to participate in sports while in DLA. This helped to keep her on track with her grades as the school has a "No Pass/No Play" policy. In 2019, her first nine-week grade for mathematics was a 56(F). In 2020, her first nine- week's grade in mathematics was a 61(D). Both grades modifications were received on assignments and tests. NOTE: It was extremely hard to get Brianna to talk and open up….

Student 7: Ashley (pseudonym)

Ashley is a female Hispanic 8th grade student in DLA. She lives in a two-parent home with one other sibling. She is the oldest of the children and is fluent in English. No services for English Second Language are given. She is identified as receiving Response to Intervention (RtI) services. This identification means that she is testing two or more years below her actual grade level in either math or reading. In 2019, her first nine-week grade for mathematics was a 71(C). In 2020, her 1stnine- week's grade in mathematics was a 57(F).

Student 8: RaShaun (pseudonym)

RaShaun is a male African American 8th grade student in DLA. He lives in a single parent home with three other siblings. He is the second oldest of the children. Last year, RaShaun's father was murdered. RaShaun is an athlete and was able to participate in sports while in DLA. This help to keep him on track with his grades as the school has a "No Pass/No Play" policy. In 2019, his first nine-week grade for mathematics was a 64(D). In 2020, his first nine- week's grade in mathematics was an 82(B).

Student #9: Nazzie (pseudonym)

Nazzie is a female African American 8th grade student in DLA. She lives with her grandmother. Nazzie's mother and her two siblings live in another home. She is the middle child. When asked during a mentoring session last year why she did not live with her mother in grade 7, Nazzie indicated that she and her mother do not have a bond and they do not get along. Administration referred her to a counselor to make sure she had all services available to help her with any depression she may experience. Nazzie is also identified as receiving Response to Intervention (RtI) services. This identification means that she is testing two or more years below her actual grade level in either math or reading. Infinite Campus did not identify which subject. In 2019, her 1st nine-week grade for mathematics was a 72(C). In 2020, her first nine-week's grade in mathematics was a 71(C).

Student #10: Lisa (pseudonym)

Lisa is a 7th grade student in DLA. She lives with her father, stepmother and three stepsiblings. She is an only child on her father's side. Being identified as receiving Response to Intervention (RtI) services, means that Lisa is testing two or more years below her actual grade level in either math or reading. Infinite Campus did not identify which subject. In 2019, her first nine-week grade for mathematics was a 67(D). In 2020, her first nine-week grade in mathematics was a 73(C).

Student #11: Laura (pseudonym)

Laura is a 7th grade student in DLA. She lives in a multi-generational home with her mother, stepfather, grandmother and two other sisters. She is the middle child. In 2019, her first nine-week grade for mathematics was a 73(C). In 2020, her first nine-week grade in mathematics was a 92(A).

Data Collection Instruments (Interviews and Survey)

Data were collected from multiple sources to provide the clearest picture possible of respondents, and their experiences during the fall of 2020. Data regarding students' role in their learning environment choice, online experiences and perceptions of their own learning characteristics were obtained through a survey and follow-up phone interviews. In an explanatory sequential mixed methods design, the sampling occurs at two points and both data collections are related to each other (Creswell & Plano Clark, 2011). The intent was to use the qualitative data to provide more detail about the quantitative results. Specific information on these two data collection tools are below.

Quantitative (Survey)

In the fall of 2020 after approximately 12 weeks into the current school year, the quantitative data survey was administered to 54 LaPoint County Public Schools students in grades 7 and 8 after consent and assent were collected from parents and students. These students were enrolled in the Distance Learning Academy.

The questions used in the survey were grouped according to the sections in the questionnaire -computer access, online experience, decision-making process in enrolling in a virtual environment, learning preferences and mathematic achievement perceptions. Likert (1932) summated in terms that eventually bore his name that attitude scales in social science research typically use a rating scale. Instruments created with the Likert-type scale asks respondents to answer with a choice of an agreement or preference range. Ranges typically are designated on a continuum from strongly agree to strongly disagree or like (Adelson & McCoach, 2010). The respondent could only choose one answer with answers categorized with Likert scale choices or yes/no options. For example, Question

6 was “I have good Internet access where I live.” Answer choices were strongly agree, agree, neutral, disagree or strongly disagree.

For this study, students were asked to complete an online survey with closed-ended questions using a Likert scale in phase 1 and open-ended interview questions for clarification in the qualitative phase 2. Modeling the closed-ended questions after the Likert scale responses with five-point answer choices produced more reliable data than a lower or higher scaled survey (Dawes, 2008). Likert-scale responses provide for easy quantification of student responses that can be studied with an analysis of variance (ANOVA) with mean, and standard deviation (SD) to examine central tendency (Gibson & Chase, 2002). The survey contained demographic questions that characterized the sample such as grade, gender, as well as additional questions related to the study topics such as learning environment preferences, online experiences, attitudes toward face-to-face or online environments, and self-report perceptions regarding how they learn best (Appendix D). For the quantitative instrument, Likert scale responses were scored on a 1-5 scale. Assigning a point system will allow for a mean, SD, and variance to be obtained: 5-point scale as follows: -2 for strongly disagree, -1 for disagree, 0 for neutral, neither agree nor disagree, 1 for agree, and 2 for strongly agree. A mean and standard deviation response ranges were then calculated for each Likert question.

Development of the QUAN Survey

Foundations for the development of the quantitative survey were drawn from previous surveys of students engaged in online learning environments, as shown in Table 6 below.

Table 6. ***Foundation for Instrument Development***

Factors	Item(s) No.	Reference
1. Environment Choice	16, 17, 18	
2. Online Access, Usage, Equipment	6, 7, 8, 9,10, 11, 12, 13, 14, 15	Luft (2017).
3. Perceptions of Own Learning & Odysseyware	19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31	Robichaud (2016) & Sher, A. (2009)
4. Mathematical Skills Perceptions & Actual Achievement	32, 33, 34	Kombe, Che & Bridges, (2019)

Qualitative (Interviews)

The students who were selected for interviews in the qualitative phase were representative of students enrolled in DLA. Students whose parents gave permission to be a part of phase two of this study were selected and student assent was also obtained.

Procedures

Survey Procedures

The surveys were uploaded to a Google Form where students have access through a link sent to them through their student email accounts. Students were asked to enter a code so that anonymity was preserved on their responses. The code-name formula was the student's birth month and day followed by the last four digits of their student identification number (SIN). The student identification number is the number assigned by the State to all students upon their first enrollment in the public-school system. The goal for using this method of code-naming was to increase responses and confidentiality of answers. Confidentially allowed students to answer more freely than if they think their answers were recorded under their coded names.

Interview Procedures

The qualitative interview data were collected through phone interviews. Students chosen for the qualitative portion of the study were given pseudonyms that corresponded to the coded name in the survey. The students interviewed were currently dual enrolled in DLA in LaPoint County Public Schools district and in one of the State designated A1 schools. The focus of the interviews was to obtain the students' thoughts on their preferences for learning environments, experience with online learning, and what they consider essential to their learning that led to understanding the choice of learning environments.

The first consideration for choosing students for the qualitative phase was the criteria of the extent to which they were involved in voice and choice of the educational environment. As previously mentioned, the interview sample was half selected as having a strong voice and those who did not. In addition, demographic representation was considered prior to the final selection of interviewees. The qualitative interview questions were open-ended to gather a varied range of participants' viewpoints. The interviews followed an interview guideline created by the researcher (Appendix E). The interviews were recorded and transcribed and reviewed by a third party who is Collaborative Institutional Training Initiative (CITI) certified for accuracy. The third party chosen for this task was also required to sign a confidentiality agreement (Appendix J).

Data Analysis

Data analysis consisted of a methodical two-phase process following directions in Creswell & Plano-Clark (2011). Since this is an explanatory sequential mixed method designed study, survey data in the first quantitative phase were compiled and analyzed.

Then subsequent to that, the phase two-interview data drawn from responses during the phone interviews were used to elaborate findings that address the research questions from both data collection phases. A narrative analysis was chosen as the best technique to investigate middle school students' choice of a fully online learning environment because this method allows for students in a different geographical location and in a distance learning environment during a national health crisis to take the survey online. A narrative analysis serves as a tool to explore something that typically affects human memory or experience (Bamberg, 2012). Narrative form experience documentation places respondents in a given space and time. It gives order and makes sense of what is occurring and attempts to explain or normalize what is happening (Bamberg, 2012). By sequencing why things have become the way they are and how individuals experience events, the "realm" of the narrative device deploys the function of laying out and making sense of a particular and unique experiences (Bamberg, 2012, p.4). Its intention can be to extrapolate and better understand specific experiences (Bamberg, 2012).

The data were organized and analyzed using spreadsheets that allowed quick and precise calculations of percentages, mean and standard deviation. The Likert scale questions were designed to provide self-report data on how the students ranked their learning in various environments, their experience with online learning. The follow-up qualitative interview allowed the researcher to examine perceptions of students under these unique circumstances and examine how participation in the fully online setting affected middle school students.

Quantitative (Survey)

Since the students could only select one answer choice with each question, I was able to group and categorize the answers. Categorical data are best analyzed and described with statistics that are either descriptive or correlative (Jaeger, 2008). Descriptive statistics describe or portray the observed data in simple charts. I sorted, analyzed and read answers to gain a general understanding of student answers to determine how those responses provided an in-depth look at students' choice. Categorizing answer choices in a logical grouping help to answer research questions. For the quantitative survey instrument, single select of yes or no and fill in the blank for demographic data were used along with Likert scale responses. The questions with single select (yes/no) or Likert scale choices were scored.

A summary of response-selected percentages helped portray the data, the central tendencies of mean, median, and standard deviations. Descriptive statistics only represent the observed data in the study and do not imply any inferences about the population sample as the sample was not randomized (Jaeger, 2008).

Qualitative (Phone Interviews)

Students were contacted through their guardian's Infinite Campus contact list. Permission was granted from the guardian to speak with their minor child, and assent was asked of the students. Students and guardians' responses were recorded on the student assent forms that are on file in a secure location with the researcher. The date and time of the recording was noted on the assent form. Recorded phone interviews took place to ensure accuracy of statements made by students. All of these procedures were University IRB approved.

As the researcher, I wanted to greet the parents, reintroduce myself, as I would be interviewing a minor child and thank them for allowing me to conduct follow up interview questions. Relationships with parents and/or guardians are essential in the educational field. Gaining a second verbal consent to speak to their student on their phones allowed parents to partake as they listened to the questions that I was asking students. I also gained assent from each student verbally before asking students any follow-up questions. Parents did not participate in the phone interviews. To my knowledge, only one parent (Brianna's mom) actually listened to the follow up interview as I heard a whisper over the phone as we were talking during the interview.

I analyzed the data based on each research question to look for trends, comparison of answers, and a relationship among the students' interview answers. Answers given by students were grouped. Trends and commonalities (i.e. Question 6 "I have good Internet access where I live.") were documented by listing all common answers in a narrative form.

Validity

Validity is crucially important when collecting, and interpreting data results (Creswell & Plano Clark, 2011). It serves the purpose of checking on the quality of the data, the results and the interpretation of both quantitative and qualitative studies. In a mixed methods study, the researcher must seek validity with both instruments. My position as the principal in an effected school offered timely and strategic opportunity to research this unanticipated situation. I wanted to understand why this age group chose to enroll in a fully online education environment. Designing the survey and interview questions around my research questions help obtain construct validity in my instruments.

The quantitative instrument was designed to measure choice, Internet and computer access and usage, learner preferences, and their mathematical performance perceptions. Student responses led me to design the qualitative follow up questions to further investigate the role of choice, access, student preferences and finally, having them to self-reflect on where they think they learn best.

The validity of this instrument was established by carefully constructing or selecting items based on empirical evidence or references that closely reflect each component (elaborated below). From the qualitative interview phase, assuring accuracy in transcriptions of students' answers, transcript recordings were sent to a third party to review transcription. As the researcher I used a phone recording app and sent all 11 recorded interviews to the reviewer after I had transcribed them in order for to her to make any necessary corrections to the textual transcript. She noted in final draft that the transcribed data was accurate as reported to her.

Quantitative:

Yilmaz, (2013) posits that validity in quantitative research corresponds to credibility and trustworthiness. By making sure, the measurement processes are accurate and they measure what they are supposed to measure, the research can be said to have credibility (Yilmaz, 2013). Taking accurate care with record keeping, and making sure to be precise with recording the Likert Scale coded numbers were essential to the validity of the quantitative instrument (Noble & Smith, 2015). Looking at participant attrition, selection bias, and maturation of the participants' accounts for internal validity.

External validity is the extent to which the study can be applied to a larger population. By assigning Likert scale scores to each survey question in the quantitative

study and recording and grouping commonalities and determining trends in the qualitative study, I matched the answers obtained in phase one with follow-up explanation in phase two. For example, quantitative phase one questions 16-18 asked student about their voice and choice in their learning environment. Those questions were supported in the qualitative phase by asking student to tell the researcher why and how their learning environment was selected.

Qualitative:

Assessing whether or not the information obtained through a qualitative data collection is accurate is extremely important (Creswell & Plano Clark, 2011). One key approach is through triangulation of data. Going back through the recorded transcript or having a third party review the interviews in order to account for personal biases that can ensure that the researcher and students were in a safe interview environment and the data were recorded accurately.

Reliability

Reliability has a limited meaning with qualitative data and is typically (Creswell & Plano Clark, 2011) characterized as replicability and trustworthiness, two elements that were achieved in this study through the use of a transcription review by an external third party. For the quantitative reliability determination, survey data were entered into an IBM Statistical Package for the Social Sciences (SPSS) to obtain a Cronbach's alpha score. After the software completed its analysis, the study questionnaire received a score of 7 (7.14). Cronbach's alpha measures internal consistency of a set of scale or test items (Noble & Smith, 2015). A score range of .6 -.7 is considered acceptable reliability.

The researcher first transcribed the recorded interviews. The transcriptions and recordings were then sent via email to a third party certified Collaborative Institutional Training Initiative (CITI) to listen and make any needed corrections to the transcribed interviews. None were reported through this review. The third party chosen for this task was required to sign a confidentiality agreement (Appendix J). Having a third party review the transcribed phone interviews allowed the researcher to check for accuracy of students' answers. In addition, a third-party substantiation also certified veracity of the interview information (Creswell, 2007).

Ethical Considerations

Informed consent, protection from physical and emotional harm, and confidentiality are three main considerations when using human subjects as participants (Lodico, Spaulding, & Voegtle, 2010). First, informed consent gives participants (student and guardians of students) in the study information about the procedures and possible risks for their volunteered services. Knowing that they can withdraw at any time is essential (Lodico et al., 2010). Secondly, protecting students from any physical and emotional harm is paramount (Lodico et al., 2010). Not asking questions in a qualitative study to influence any behavior in an adverse way is of the utmost importance (Lodico et al., 2010). Third, confidentiality is unquestioned and vital to all stakeholders (Lodico et al., 2010). State public school personnel sign Family Educational Rights and Privacy Act (FERPA) (Appendix I) forms each year protecting the identity of minors, by coding any identifying information. The researcher secured interview data on a jump drive and it is stored in a locked box with the consent and assent forms, and the disaggregated data on an EXCEL sheet from the quantitative survey. All survey and transcripts will be stored in

the vault at LaPoint County Middle School. The transcriber will only know participants by pseudonyms. Possible risks in this study are minimal. However, risk is always possible and is recognized by the researcher.

Informed Consent and Confidentiality

LaPoint County Public Schools Board of Education, and its Superintendent's approval (Appendix B) along with parent consent (Appendix C) and student assent (Appendix D) permissions for all sample students was obtained according to human subjects' procedures approved by the University of Kentucky Office of Research Integrity. Parent or guardian consent permissions to protect Family Education Rights and Privacy Act (FERPA) information referenced in consent and assent forms in order for the students at LaPoint County Public Schools grades 7 and 8 to participate in this study (see Appendix C). All students were volunteer subjects. All students and parents had the opportunity to withdraw at any time.

A coded name for the quantitative survey respondents was used and a pseudonym for the qualitative interviews assigned so that anonymity was preserved with all students. The quantitative data code for anonymity was the last four digits of their student identification number (SIN) the student's birth month and day follow the code name formula. A pseudonym was selected for each student in the qualitative phone interview. The first letter of the child's name was matched to a pseudonym in order to keep track of which students reported out which data set and to match phase two responses with phase one survey data, along with demographic data sets.

Once all participants have completed the survey, data were downloaded and analyzed. In the spring of 2020 during the outbreak of the novel corona virus, Google

forms were used with students. Most, if not all students, were expected to be very comfortable with the format. The researcher will store the parent permission consent forms and student assent forms for the required IRB period of six years in a locked file cabinet in the school district, after which time all survey and transcribe phone interviews will be destroyed.

Researcher's Role and Positionality

Along with being the primary researcher, I am also a principal at one of the middle schools in LaPoint County Public Schools district. However, the DLA has its own administrator and teachers to which I have no direct access, contact or supervision. As the researcher, I collected and communicated information about the data collection procedures, collaborated with others where appropriate for permissions and access, and finally, will be reporting findings learned from the study to various entities (LCPS Board of Education & Superintendent). In the qualitative phase, I interviewed students, and determined the why and how students' choice to enroll in DLA, examining their perceptions of their learning from answers given and summarizing their success and struggles in a fully online educational setting. I have no way of definitively knowing how my known role as a principal in their district, and indeed their own school prior to enrolling in DLA affected their decisions to enroll or how candid they were in their interviews. However, the DLA students were from both middle schools in LPCS.

Positionality

Milner IV (2007) posits that researchers have implicit biases that must be examined and reflected upon in the presentation of ideas, stories, philosophies, and experiences. With positionality, as the researcher, my awareness (known) of educational

issues in this district, along with the unknown (unseen) and the unanticipated (unforeseen) issues that have surfaced during the last year are discussed and addressed in Chapter 5. First, with the issue of implicit biases, as a 14-year middle school principal, my role in the district may have hindered some students and or parents/guardians in taking the initiative to participate in the study. Furthermore, being the principal of one of only two middle schools in the district, may have affected parent consent and student assent to participate due to being a rival school. Having lived in this district for 15 years, and employed for 16 years, in LaPoint County Public Schools system, there are deeply embedded and rooted biases against the other middle and high school as the study not being relevant to them. These biases come from generations of family members only wanting their family to attend one certain high school where they attended. Community members and parents of students who register their children for a zone middle and high that was different from the one they attended as stating, "I am a Cougars (one middle school mascot) and I don't know if I can handle my child having to be a Titan (the other middle school mascot)."

Plans for Presenting Results

After presenting the data to my graduate committee at the University of Kentucky, data and findings from this survey will be presented to the Superintendent of LaPoint County Public Schools and the Board of Education. This report will comply with all necessary requirements and precautions for meeting the approved confidentiality requirements from the Instructional Review Board at the University of Kentucky.

Summary

Chapter 3 presented the methodology for this exploratory sequential mixed methods research study. In this chapter, I described the process of selecting the participants, how study instrumentations were developed, how data were collected, coded and analyzed and ethical and validity considerations. Data were collected using a survey questionnaire and phone interviews. The quantitative instrument used was a survey drawn upon online surveys of other distance learning students' experiences. These data were coded according to the Likert scale responses. A code-name formula was used to assure confidentiality. During the analysis, a third party reviewed the transcribed interview data. For the qualitative component, the researcher conducted phone interviews with 11 middle schools' students (20% of the entire sample) enrolled in the LaPoint County Public Schools Distance Learning Academy. Study findings will be shared with multiple constituents: LaPoint County Public Schools' Board of Education, LaPoint County Superintendent and the University of Kentucky. Publications in academic journals is also planned.

CHAPTER 4: FINDINGS

Introduction

This chapter describes the results, examines themes, evaluates findings, and summarizes these findings.

The findings are organized by the research questions. The survey findings are integrated in this chapter into demographics (for both phases) and four thematic sections: computer access/usage/learning, learning environment experiences and choices, learner characteristics, and mathematics achievement perceptions versus actual achievement. The themes originating from the survey data provided insight into the students' perspective on learning environments through the course of the semester. The first thematic section is looking at access, learning preferences, and on-line experience. The second uses survey data to examine learner characteristics as reported in the survey. The third thematic section uses survey and interview data to provide supplemental information on the students' role in their choice of enrolling in a fully online educational environment. The fourth thematic section uses survey and interview data to delve into students' perceptions versus actual performance in mathematics on their Unit 1 Mathematics test in a distance- learning setting.

Results of Research

1. *How were the middle school students involved in the decision to opt for a fully online fall 2020 semester?*

Survey question number 17 asked students (I had an active role in choosing my learning environment (Virtual or In-Person (Traditional)). (Meaning- I was able to choose which learning environment I enrolled in). The responses to question 17 were as follows:

14 (25.9%) students strongly agreed, 19 (35.2%) students agreed, 11 (20.4%) students were neutral, five (9.3%) disagreed, and five (9.3%) students strongly disagreed. Table 7 summarizes these findings.

Table 7. *Quantitative Students Results: Active Role in Choosing Their Environment*

Question No.	Likert Scale	Number (n=54)	Percent %
17. I had an active role in choosing my learning environment (Virtual or In-Person (Traditional)). (Meaning- I was able to choose which learning environment I enrolled in.)	Strongly Agree	14	25.9
	Agree	19	35.2
	Neutral	11	20.4
	Disagree	5	9.3
	Strongly Disagree	5	9.3

From student responses to this question, it is clear that 61.1% of students had some active role in choosing their learning environments in the fall of 2020. Whether it was the avoidance of COVID-19, the requirement of wearing a mask for 7 hours a day, or the incentive of a family laptop; it is clear that parents and guardians did allow students some say in where they would begin school in the fall of 2020. With (M=3.59, SD= 3.28) indicated that there was a significant active role in for student input when it came to choosing their learning environment. To further validate and extend student survey responses, in phase two, the researcher asked students to talk about their family's decision to choose a distance learning environment for the fall of 2020.

Researcher: Talk to me about how your family (back in August) decided to enroll in the Distance Learning Academy.

Kera reported a discussion of grades or a better-fit learning environment, "Well, my mom wanted to try it and see what was better for me, my grades. To see if the in-person learning was better of me or if (DLA) was."

Annah by contrast, said the decision in her home focused on her health, “We decided to enroll in DLA (distance learning academy) because I have a weaker immune system and a lot of people in my house do and we didn’t want to risk it.”

Donny spoke how the distant learning setting would benefit his family by keeping them safe coronavirus exposure but also, it was something new to try. “Uhm, personally, I think we went off the number of COVID cases and it would just benefit us in a safe way. It would keep us away from COVID and it was just something new to try.”

Russell had concerns as the to how long he would be expected to wear a mask, not being able to play with his friends, and not being able to eat with friends during lunch. “My family decided to enroll me there because we did it when we heard we had to wear a mask constantly at school: on the bus, at school… we couldn’t play with our friends… we had to stay in our own class and eat lunch there, I wanted to start homeschooling. And then they found Odysseyware and we signed up for it and it’s been working for us great.”

Frank was not only concerned with the risk of getting COVID but he had concerns about the constant change in learning environments from hybrid back to an at home non-traditional day (NTI) where students would be at home in a distance learning setting like they were last spring. He noted, “Uhm… well when we were deciding what we were going to do we didn’t want the risk of getting COVID and that was the first issue… and also we were afraid that going from NTI to traditional learning would be too much and decided to stick with one thing and it would be easier on us.”

Brianna, Ashley, and Laura all stated that a chief driver of the decision to go fully online as to avoid coronavirus. Ashley and Lisa had to be redirected with the first

question. They did not understand at first had a hard time understanding how to answer the question, I had to rephrase what I was asking and then she answered the question. She at first stated that she did not get to choose between virtual and hybrid but added that she also needed to focus on her learning. Ashley's comment summarized these girls' feedback on this question, "So, that we could not get COVID. So, we could focus."

RaShaun was the first to talk about a family discussion on the issue of where he would enroll in the fall of 2020. Ultimately, it was ease of schedule, and something new to try. RaShaun told me he struggles a lot with learning on Odysseyware. As the principal of LaPoint County Middle School, I had RaShaun last year as an eighth grader. He is very smart and was enrolled in the advanced classes last year. I wondered if it was self-regulation that made it hard for him to learning in this setting. He told me, "In August, mama let us go to the table and talked to us about it. We were always doing something. She just asked to you want to go to school or do virtual. She said she would let us try virtual and see how the numbers go (class averages). I struggle a lot with Odysseyware."

Nazzie spoke about making with decision with her mother. She currently lives in her grandmother's household. It appears that the grandmother still allows the mother to make all major decision for Nazzie's care. "We decided me and mother (natural mother not her grandmother)."

Since this study evolved from the experience of learning in a virtual setting due to COVID-19, as the researcher, I thought it would be important to ask students their opinions if COVID-19 played a part in the decision in order to solidify their reasons for enrolling in a fully online setting.

Researcher: Did COVID play a part or was it the incentive to get a laptop for your family?

As I interviewed students, Kera indicated her mother wanted her to be safe, but if she was not successful and her grades dropped, her mother would enroll her in the onsite environment. Kera stated, "I think the COVID part was more. My mom wanted me to be more safe. But if my grades were going to slip she would want me to be at school."

Annah was animate that COVID was the reason for enrollment in the distance learning setting and not the laptop. She noted, "No, just because of COVID."

Donny showed his independence when asked about COVID, and redirected the question and asking, "For me or my family?" he even gave me a percentage of which one influenced his decision more. As the researcher, I wanted to know both.

He replied,

> For me, really COVID. It was like 75% COVID and 25% the laptop. I wanted to see what it was like to do school virtually. Since it was my first time and I just wanted to stay away from COVID.

Russell firmly stated, "It was COVID."

Frank was very candid in that he had everything (laptop) he needed for the online setting and that COVID was the reason he was concerned about going back to school. He indicated, "No, I mean we already had things for DLA, we were just afraid of getting COVID."

Brianna, was firm and quick to reply, "Yes, ma'am" when I asked her about COVID-19.

Ashley stated she did not know if COVID-10 played a part to this question. She simply stated, "I don't know."

RaShaun was very honest with stating, "We wanted the laptop."

Nazzie, and Lisa indicated that COVID was the reason for their enrollment in DLA by simply stating it was "COVID".

Laura on the other hand asked a question to clarify what I was asking. She asked, "Uhm…Is that like saying did we need an extra laptop? After I replied yes, she stated," Yeah, then we needed an extra laptop." From this statement, I marked her as indicating it was not COVID as the reason for enrolling this the online environment.

The survey did not explicitly ask students why they chose to enroll in a fully online educational setting; however, eight (72.7%) of the eleven interviewed students stated the reason they chose DLA was due to COVID-19.

Students' Learning Environment Preferences and Choices

Research question 1 a. What were students' preferences?

As a sub-part of the main research question, students were asked their preferences in learning environments. Since March of 2020, students in LaPoint County Public Schools had been in a full distance learning setting. With the knowledge of how each environment worked, students had experience to answer the survey questions regarding their preferred choice of learning environments. The researcher wanted to investigate if they had complete choice, with no parent input, what environment they would choose to learn in. Question 18 asked: If I were able to completely choose the type of school I am in, I would choose (Virtual, Blended (both virtual and traditional), or Traditional only)? Multiple response selections were not an option. Students' choices indicated that 16 (29.6%) preferred learning from home in a virtual setting, 14 (25.9%) enjoyed the aspect of both virtual and traditional settings, and 24 (44.4%) preferring a traditional setting. Responses summarized in Table 8 below.

Table 8. *Learning Environment Choices*

Question	Environment Option	Number (n=54)	Percent %
18. If I were able to completely choose the type of school I am in, I would choose (Virtual, Blended (both virtual and traditional), or Traditional only)	Virtual	16	29.6
	Blended (both virtual and traditional)	14	25.9
	Traditional only	24	44.4

Computer Access/Usage/Equipment

Items numbered 6-8 on the survey asked students about Internet access, having their own computer to use in a virtual learning environment and if they needed a laptop from the district to be able to connect and learn from home. As shown in Table 9 below, forty-eight students (88.9%) indicated they had good Internet access at home with only five (9.3%) choosing neutral and only one (1.9%) choosing 'disagree'. The district was able to work with the regional Area Development District (ADD) office to purchase hotspots for students with no Internet access. The numbers were split in half on adequacy of access to technology for online learning. Twenty-five (46.3%) students reporting they had their own device and 29 (53.7%) affirming they did not have what they needed for virtual learning. With the CARES Act, Public Law 116-136. (Federal Register, 2020) districts across the Commonwealth were able to purchase one-to-one technology for students.

Table 9. *Computer Access/Usage/ Equipment*

Question	Likert Scale Yes/No	Number (n=54)	Percent %
6. I have good Internet access where I live.	Strongly Agree	28	51.9
	Agree	20	37.0
	Neutral	5	9.3
	Disagree	1	1.9
	Strongly Disagree	0	0
7. I have my own computer (NOT ONE GIVEN by LCPS) to use for virtual learning.	Yes	25	46.3
	No	29	53.7
8. I needed a Chromebook from the district to be an online virtual learner.	Yes	24	50.0
	No	27	50.0

Learning Environment Experiences

Research Question 1b. What are their previous online experiences and current experiences with Odysseyware LMS used in the DLA?

To understand students' learning environment experiences, the researcher examined both previous online learning experiences and students' experiences with their current virtual learning software, Odysseyware.

Survey question 9 asked if they had previous experiences using online programs, 15 (27.8%) respondents strongly agreed, 25 (46.3%) agreed, 10 (18.5) were neutral, one (5.6%) disagreed, and one (1.9%) strongly disagreed. When asked about student knowledge of search engine use (question 10), 81.5% of students indicated they were knowledgeable with them. Students strongly agreed (27-50%) and agreed (17-31.5%) to knowing how to use one and ten students (19%) indicated, they had low or no knowledge (neutral, disagree, or strongly disagree) of search engines.

To support data for Research Question 1 sub-part b., question 11 asked students to rate their online learning experiences before this school year started. Encompassing 55.6% of responses, students indicated they were proficient in their knowledge of how to learn in an online setting. Strongly agree was selected by 9 (16.7%) students, agree by 21 (38.9%), neutral by 10 (18.5%), disagree by 6 (11.1%), and strongly disagree by 8 (14.8%) of students. Responses to these questions are presented in Table 10.

Table 10. *Previous Experience with Online Learning*

Question No.	Likert Scale	Number (n=54)	Percent %
9. I have previous experience using online programs?	Strongly Agree	15	27.8
	Agree	25	46.3
	Neutral	10	18.5
	Disagree	3	5.6
	Strongly Disagree	1	1.9
10. I know how to use an Internet search engine.	Strongly Agree	27	50.0
	Agree	17	31.5
	Neutral	6	11.1
	Disagree	3	5.6
	Strongly Disagree	1	1.9
11. I have experience with online learning before this school year started.	Strongly Agree	21	38.9
	Agree	9	16.7
	Neutral	10	18.5
	Disagree	6	11.1
	Strongly Disagree	8	14.8

The District's Distance Learning Program: Odysseyware

Six survey items (question numbers 26-31) enabled the researcher to examine students' responses on how the districts adopted distance learning program, Odysseyware, was meeting their needs in a distance learning environment. A successful virtual instructional curriculum is obviously important when choosing a program to meet

the needs of all students. This program was adopted for the DLA based on its versatility in meeting grade level standards for grades 7-12 as well as the district's previous experience with the program. This company has accreditation to give high school credits for classes completed in their program. This program has also been used by the district in Credit Recovery and Focus and Finish classrooms at the high school level and at the alternative education site within the district. For the DLA middle school students, information on ease of access, hardware and software challenges and if students were actively doing their work was needed to evaluate the decision to use Odysseyware with the teacher monitoring system chosen. Questions 28-31 inquired about Odysseyware's ease of access, assignment completion, and assignment rigor, which challenged their learning. Data indicated that when asked about ease of access (question 28) 75.9% of students indicated logging on to Odysseyware was an easy process. This question had a mean of 1.167 with a standard deviation of 0.922. Question 29 asked students if Odysseyware challenged them in their learning; 75.9% of students indicated that they were challenged by the program activities and it extended their learning. Table 11 below shows student responses.

Table 11. *Students' Perceptions & Odysseyware*

Question No.	Likert Scale	Number (n=54)	Percent %
26. Learning with a teacher is easier than learning by myself in an online setting.	Strongly Agree	34	63.0
	Agree	10	18.5
	Neutral	8	14.8
	Disagree	0	0.0
	Strongly Disagree	2	3.7
27. I tend to wait until the last minute to finish an assignment in Odysseyware.	Strongly Agree	7	13.0
	Agree	13	25.9
	Neutral	14	25.9
	Disagree	12	22.2
	Strongly Disagree	7	13.0
28. Odysseyware is easy to access through the Internet.	Extremely Easy	22	40.7
	Moderately Easy	19	35.2
	Neither Easy nor Difficult	12	22.2
	Moderately Difficult	1	1.9
	Extremely Difficult	0	0.0
29. Odysseyware challenges me to extend my learning.	Extremely Challenges	21	38.9
	Slightly Challenges	19	37.0
	Neither Challenges or Bores Me	3	5.6
	Slightly Bores me	5	9.3
	Extremely Bores me	5	9.3
30. I complete my assignments as soon as assigned in Odysseyware.	Very Likely	4	7.4
	Likely	21	38.9
	Undecided	12	22.2
	Somewhat Unlikely	12	22.2
	Unlikely	5	9.3
31. I stick with a task assigned in Odysseyware until it is complete.	Always	9	16.7
	Most Likely	28	51.9
	Undecided	7	13.0
	Somewhat Unlikely	8	14.8
	Very Unlikely	2	3.7

Student Work in Odysseyware: Issues with Student Progress

In January of 2021, an examination of the number of middle school students who were not completing work in Odysseyware was staggering. When the superintendent asked the teachers of DLA to report on the number of failing students, they reported that of the 447 enrolled in DLA, 209 students had one or more failing grades -- 46.7% of middle school students. The decision was then made by the board of education that any student failing three or more classes would be removed from the DLA learning environment and be mandated to enroll in the traditional learning setting at each respective middle school. By the percentages in Table 9, students' answers show that Odysseyware access is easy; however, when asked about assignment completion in Question 30 (I complete my assignments as soon as assigned in Odysseyware.) only 46.3% were willing to complete assignments when they were assigned. Encouragingly, Question 31 asked students (I stick with a task assigned in Odysseyware until it is complete.) and 68.6% of students indicated they would stick with an assignment through completion. Question 27 (I tend to wait until the last minute to finish an assignment in Odysseyware.) examined procrastination with assignment completion and 38.9% of students acknowledged to waiting until the last minute to finish an assignment.

Student and Course Case Loads

DLA teachers were quickly overwhelmed with the number of classes and students they were expected manage. The four middle school teachers were assigned three courses for each student enrolled in DLA. This required each teacher to enter information on 335 student-enrolled courses. The DLA teachers were given 6 hours of professional learning in a virtual setting one week before school started to learn to

navigate their way around in Odysseyware. During the DLA teacher interview she told me that many tears were shed by the DLA teachers who did not have the technology background needed to maneuver this new learning environment.

The DLA teacher interviewed simply stated, “We can only ask parents to come in, we can’t make them (students) complete the work and we can’t force them (students) to come in and be tested due to COVID-19 state regulations. There was no way to hold parents accountable.”

Research Question 2: To what extent do the qualitative interview survey results on student’s prior online educational experience validate, extend or conflict with the quantitative survey results?

Supporting the survey were the qualitative study answers given by students in the sample group related to pacing of instruction, the need for contact with teachers beyond email and difficulty focusing (self-regulation):

It was important to know what these students liked about their online learning environment and what they would like to see changed. Students reported as liking a variety of thing after 12-15 weeks in their learning environments. This can inform districts and teachers on how to better serve our students, create engaging lessons, and improve student achievement.

Researcher: You have been enrolled in this learning environment now for 12-15 weeks, what do you like about it?

Kera likes working at her own pace. Being able to take longer on an assignment and not having a concrete due date for her work was noted. Kera said, “Well, I like that I can work at my own pace. Like take as long as a needed if I needed help.”

Annah like being able to contact her teacher by email, a chat box and sometimes she could call them at DLA. She said, “Uhm, I like that we are able to ask the teacher for help by email. I like that they. (Odysseyware) has that feature in there. It is usually in a chat box.”

Donny was a pleasure to interview as he wanted to make sure teachers were highlighted in how they supported him in his learning; not only in the current setting but in past years.

Donny stated,

> I like the uhm, I like there is not as many distractions in school like drama and things like that. But, one down side to virtual learning is that you don’t get that sense of the teacher always being there to help you. I’m not saying that the teacher is never there to help me if I as for help, but it’s not the same as it would be at school. The teachers help me all the time; please don’t take that the wrong way.
> (*Laughter*)

Russell, reported he like talking to teachers through google meets. Russel must have been thinking about his time last spring with regular google meet weekly session. None of the other students mentioned this as a tool used in DLA. Everyone else reported on email, chat and phone call conversations. I did clarify this with the DLA teacher and she stated no google meet sessions were scheduled. Some students if they had IEP and needed one-on-one help cold call and ask for assistance.

Russell stated,

> I like the part where I can talk to my teachers through google meets, Uhm, I don’t have to wait on getting my work done and others to finish. I get mine done fast and get good grades, and I think that’s how I learn best by not having to wait and I can just keep moving on without…. having to do other assignments while I’m there.

Frank reflected on last spring and stated that having his own schedule, not having to jump back and forth between onsite and at home learning was important to him. Taking breaks and taking as long as he needed to do assignments was also a plus.

Frank answered,

> Uhm, well it's honestly I like it a whole lot better that when we did the NTI last year for a little bit. Because I can have my own schedule and like not as much back and forth. It makes it easier if I want to take a break before lunchtime, I can do that as long as I get my work turned in.

Brianna was very candid about what she like about DLA. Staying home, time spent on video games and sleeping were important to her. She stated, "Like: I get to stay home, and play games. It's more faster."

I had to re-state the question with Ashley as she asked, "What do I like about it?" After giving her an affirmative answer, she was still unsure of how to answer. She stated, "Uhm, to be home I guess. But, I would mostly like to be in school."

RaShaun indicated that immediate feedback on lessons, automatic grade calculation and not having to wait for the teacher (to give a grade) for an assignment was important to him. Having extra time (pace) in order to complete assignments and creating his own schedule for completing work as a positive for him.

RaShaun stated,

> So like Odysseyware gives you immediate feedback on your school. Automatic grade was given you don't have to wait on the teacher. English was less complicated. You get extra time to do something. Stuff not due the next day. You have your own schedule.

Nazzie was short and to the point with liking not having any distractions and that her at home setting was quiet; she replied, "That it was quiet, no distractions."

Lisa indicated that being with her siblings was what she liked best about distance learning. She stated, “I got to spend more time with my siblings.”

Laura agreed with Lisa as she informed me that staying home and being able to redo any lessons.

She indicated,

> I like the staying at home part…. I like that whenever we have lessons and have a low grade we redo it and it tells us what we got wrong so that we don’t accidentally get the ones that we got right wrong and end up with a lower grade.

After gaining information on what interviewees liked about their distance learning environment, I asked about what they as students would like to see changed. There responses were enlightening and will be shared with DLA teachers, LCPS district superintendent and board members in order to create a more conducive learning environment for DLA students.

Researcher: What would you like to see changed?

Kera wanted more interaction with teachers as email takes a long time for teachers to respond to the number of students they are servicing. She replied, “Uhm, The interaction with the teacher. Email takes a long time for the teacher to respond cause they are getting emails every day.”

Annah wanted to see and hear a teacher, and she indicated that video recordings of teachers explaining how to complete lessons was needed. She stated, “I don’t like that I can’t see the teacher or hear them. Uhm, I think maybe if instead of having just passages we had a video recording of the teacher explaining how to do it. Something like that.”

Donny and Russell were both completely happy with their online learning experiences. Both wanted nothing to change. Donny replied, “Uh, in my opinion there is

nothing really. I would probably think of something after I end this survey. Nothing right now. Nothing really." Russell agreed by stating, "I would like to see…uhmmmm. Naw, I don't think there is anything that I would like to change."

Frank was very informative of Odysseyware likes and dislikes. He too stated a need for a teacher and waiting for teachers to reply to emails.

Frank responded,

> Uhm, I mean honestly it's a pretty good like website like how they have everything set up and all of that. But sometimes it's hard to learn all the subject because you don't have a teacher with you. But it also helps because you can send a message they will usually get back with you in about 30 minutes. So, I mean there's not many things that I can say are really wrong with it.

Brianna had to be redirected back to the question when she informed me that "I want to go back to school but... (*interviewer had to reword question*). Brianna then stated, "Nothing. It's just okay."

Ashley was again confused by the question by asking me, "What do you mean?" I restated the question.

She replied,

> I don't like using Odysseyware because when I am working on an assignment it logs me out then I have trouble getting back on the assignment because then it says I turned it in and I was in the middle of working on it. But I fixed that. And then, I'm just sending so many more websites to do more work on. Like Google classroom was okay, and Clever was okay, and Study Island was okay. But then Odysseyware came in and was piling up.

RaShaun wanted us to know his frustration with waiting on replies from the DLA teacher through email. He also noted that math was hard for him in the online setting and that he needed a teacher for that subject. He stated, "Having to wait on the teacher to email when you had a question. I would get frustrated with that. The math was really hard. I need a teacher for that."

Nazzie wants to have google meets with a teacher like she had in the distance learning setting last spring. She stated, "I would like having more Google meets."

Lisa indicated that she did not know what needed to be changed but she, as a learner needs a teacher. She stated, "I don't really know… (I) Need the teacher more."

Laura wanted to be able to not only get to redo lesson assignments in Odysseyware for a higher average; she wanted them to change the program where any test questions could also have that same feature.

She stated,

> And when we have a test or something and get some wrong, we're allowed to do it again. But I would like them to show us the ones we got wrong so that we don't get a lower grade. Instead of us changing the ones we got right. That's happened with me a few times.

Knowing what works well and what we need to revamp in an online setting for adolescent learners will help create a more successful in an online environment. The students were very candid and honest in their replies.

Pace of Instruction

Qualitative data supported the quantitative results in survey Question 24 where students indicated that working at their own pace was important to them and it was one of the most noted statements during the interviews. On the quantitative survey, 47 students (87%) indicated they strongly agree, or agree that they liked working at their own pace. This percentage was again noted six (54.5%) of the 11 interviewees, stated it was an important aspect of learning online. Kera, Russell, Frank, Brianna, RaShaun, and Laura all a referred to pace or being able to complete assignments when they wanted, and not having a next day due assignment like in the F2F setting.

Kera stated, “Well, I like that I can work at my own pace. Like take as long as needed if I needed help.”

Russell agreed by replying,

> ...Uhm, I don’t have to wait on getting my work done and others to finish. I get mine done fast and get good grades, and I think that’s how I learn best by not having to wait and I can just keep moving on without…. having to do other assignments while I’m there.

Frank alluded to pace as he stated, “It makes it easier if I want to take a break before lunchtime, I can do that as long as I get my work turned in.”

Brianna simply stated that Odysseyware was faster. Her reply was, “It’s more faster.”

RaShaun liked having extra time to do assignments, as they were not due the next day. He stated, “You get extra time to do something. Stuff not due the next day.” He also noted, “I do like I could take me time with it.”

Laura was the only other student to mention any aspect of pace. She noted, “… when we are on one thing where you take a break close lunch and get up and finish it later on.”

Student Reflections on Distance Learning

When asked to reflect on what they did not like or wish they could change about their online setting, the most given answer was more contact with a teacher (especially for mathematics instruction). From the interviews, all eleven students (100%) stated they missed having a teacher.

Kera mentioned interaction with the teacher is something she misses. She stated, “The interaction with the teacher.”

Annah who is not only identified as with a General Intelligence label but also being gifted and talented in other areas, doesn't think she learns as well at home in an online setting as she did with a teacher when she was in a regular school setting. She stated, "I don't like that I can't see the teacher or hear them." She reflected on her math ability and felt that being in front of a teacher where she could hear and see them explain the lesson was her best environment for math. "She responded, "Well, in math I like being in front of a teacher because I can hear them explain it. I just can comprehend it better when I can hear and see it."

Donny wanted the researcher to know that he was loving his online environment. He did note that, "The teachers help me all the time; please don't take that the wrong way."

Russell feels he performs better in a F2F setting with a teacher rather than learning from a computer. He said, "I feel like if I am with a teacher in the classroom teaching us I usually do better if I look and hear it coming from a person rather than a computer."

Frank noted that sometimes it was hard to learn all subjects because he did not have a teacher with him. His reply, "But sometimes it's hard to learn all the subject because you don't have a teacher with you."

Brianna actually named the teacher she missed working with Mr. Strong (pseudonym). Since Brianna has and IEP, even in DLA she would have had some sort of contact with a special education teacher. She stated, "Learn better with a teacher."

Ashley noted that in distance learning she did not really get help. When she was working in Odysseyware and would get stuck on a problem she would have to wait to

receive a response for the teacher. She stated, “Then something happens and yeah, I would rather be near the teacher so I can say, “Hey, what’s going on with this?” So that I can understand it quicker and faster.”

ReShaun indicated that he struggles with math and he needed a teacher for that subject. He said, “Having to wait on the teacher to email when you had a question. I would get frustrated with that. The math was really hard. I need a teacher for that.

Nazzie indicated that like the spring of 2020 when she had google meet sessions she would like to have more like that. She stated, “I would like having more Google meets.”

As Lisa was reflecting on her online environment, she stated, “Need the teacher more.”

Laura let me know that she likes a traditional environment more due to being able to see her teacher.

She replied,

> I think I do it better traditional. Cause I actually get to see my teacher. If I have questions, she can explain it the best way she can. I don’t have to wait a while for her to send a message.

Research Question 3: In what ways do the perceptions of middle school students about their own learning; reveal successes and struggles in their chosen learning environment during the fall of 2020?

a. How do they anticipate their performance will be in the online environment on their Math Unit 1 assessment?

b. What results emerge from comparing the actual performance data between the students who chose the hybrid F2F environment versus the online environment after taking the Mathematics Unit 1 assessment?

Survey question 26 asked students about their perceptions about their own learning if they were able to make that choice of learning environment completely on their own. Deciding between learning in a traditional environment with a teacher or in an online distance environment was intended to understand these DLA middle school learners' preferences and were revealing about their learner characteristics. Learning with teachers far outweighed learning by themselves in an online distance environment. A total of 44 (78.5%) of students on Question 26 (Learning with a teacher is easier than learning by myself in an online setting) selected working with a teacher as their preferred method of learning. Ten (18.5%) surveyed students chose learning by themselves as the preferred method of learning by selecting neutral or strongly disagree.

Both the quantitative and qualitative data addressed learner characteristics. Survey questions numbered 19-25 assessed how students worked with each other, asking if they set schedules or goals for themselves, and if they were self-regulated enough to finishing online tasks assigned to them, as shown in Table 13.

Table 12. *Learner Characteristics*

Question	Likert Scale	Number (n=54)	Percent %
19. I work well with others.	Extremely Well	9	16.7
	Very Well	21	38.9
	Moderately Well	16	29.6
	Slightly Well	6	11.1
	Not Well At All	2	3.7
20. I believe I am a high achiever.	Strongly Believe	13	24.1
	Moderately Believe	28	51.9
	Neither Believe or Disbelieve		
	Slightly Disbelieve	11	20.4
	Disbelieve	2	3.7
		0	0.0
21. I like learning at my own pace.	Strongly Agree	26	48.1
	Agree	21	38.9
	Neutral	4	7.4
	Disagree	1	1.9
	Strongly Disagree	2	3.7
22. I can set goals in order to complete assigned tasks.	Strongly Agree	11	20.4
	Agree	28	51.9
	Neutral	14	25.9
	Disagree	0	0.0
	Strongly Disagree	1	1.9
23. I complete and turn in my assignments on time.	Always	4	6.3
	Often	30	56.6
	Sometimes	17	31.5
	Rarely	3	5.6
	Never	0	0.0
24. When I have an assignment, I can usually complete it on my own.	Always	8	14.8
	Often	27	50.0
	Sometimes	17	31.5
	Rarely	2	3.7
25. I tend to create a schedule to complete classwork.	Always	12	22.2
	Often	17	31.5
	Sometimes	14	25.9
	Rarely	8	14.8
	Never	3	5.6

The qualitative study interviews extended these answers by delving into the 'where and how' experiences of students as they participated in their distance learning

environments. It is anticipated that knowing how students learn from day to day in this fully online environment will help educators understand the struggles and successes students face in this type of setting. These students are experiencing not only a new learning environment, but they are in the middle of a national health crisis. These comments provide a range of experiences; some reported difficulties, others noted positive aspects of learning online at home.

Researcher: Describe for me your where and how you learn in your distance learning environment.

I was surprised that Kera knew herself enough that she was honest about learning from home was a struggle to get in the "mindset of school." She stated, "I found it difficult, hard to keep on track whenever I was at home." Adding, "But, I think it was harder for me to be in the mindset of school when I am at home."

Annah described learning in her living room, which I found was interesting since she lives in a multi-generational home. The living room with all the household movement, might have led to her thinking she does not learn as well at home in an online setting. This conclusion comes from her statement, "I usually just sit in my living room. Uhm, I do not think I learn as well as I used to like in school."

Donny began by describing his daily schedule and that most of his learning occurred at the kitchen table. I found it curious that he continued to get up and start the day at a normal school time of 7 AM. I wonder how many other students had the self-discipline to do that. He stated, "Uh, Uh, I do school through Odysseyware and I usually start school around 7 AM and end around 2 PM." The kitchen table served as his learning space for regular assignments and his room was reserved for test or quizzes in

order to take them in a “quiet learning space”. Donny specified, “At home at the table. We do most of our school work at the table so that we won’t tend to not do our school work. If we have a test or quiz where we need more quietness, we go to our rooms.

Russell’s family also tried to make learning in the online setting as close to a regular day as possible. He completed his work at his dining room table.

He stated,

> Uhm well, I try to make it a regular school day so that… I try to make it school so that… having good grades in school I try to make that happen virtually. So, I will set an alarm and get up at the time I usually go to school and then from the bus ride we would leave around 7AM that’s why I start at 7 AM and usually I have a schedule and I write down all my assignments or my mom helps me. I write down all the assignments I need to get done that week, and upcoming test and quizzes that I need to study for. I don’t play music or anything, I just do my schoolwork.

He also noted that he had chores to complete during the at-home school scheduled day.

He noted,

> We usually get up and go feed our animals. We have six or seven do every morning when we wake up. Play some video games then at 7 o’clock, we start our homework. That’s when I learn and when I am done I do the rest of my chores and then I am free.

When he added, “I am free” I had to smile as a teacher, mother and a researcher. Often when giving students, our children and even ourselves a to-do list, it is with a sigh that we refer to being free when the task is complete.

Frank’s family actually transformed a family room into a “classroom” learning space. He informed me, “Uhm, we have a spare room in our house and we changed that from just a little a family room to a classroom for me and my sibling.”

When asking him about how he learned in the space, he stated,

> I mean, I wake up and I do a little bit without music, but when I get to the easier subjects at least for me, I will put on music, walk around and take a break. Whatever is comfortable for me as long as I get my work turned in.

Brianna also worked at a classroom type setting by completing assignments at her desk. She replied, "At this desk my mama got."

Ashley indicated she did her Odysseyware in her room and at the kitchen table. She said, "In my room on my computer. She also added, "Sometimes at my table in the kitchen."

She went on to elaborate that she has a set schedule of getting up and doing normal preparation activities that she would do if she were enrolled in an onsite school.

She stated,

> Uh...me and my brother wake up at 6 AM, get everything ready, brush our teeth, and then we go in our rooms. At around 6:30 AM we should be done and then we come in and work. And, sometimes if I have time, I sometimes listen to music, but then I turn it off because sometimes it gets distracting. And then that's it. Now I was doing an assignment and I was listening to music.

RaShaun too worked at the kitchen table. He also noted he enjoyed working on a computer. He said, "I did all my work at the kitchen table. I like to learn on a computer." Adding, "I wake up in the morning and go straight to the kitchen, log-on and do my work."

Lisa learns at her kitchen table too. She simply stated, "My kitchen table." Adding her routine to the interview, she noted that she also follows a routine like she would if she were in an onsite school setting. She added, "My routine was me getting up early in the morning like I do for school, eating breakfast like I do in school and how I focus and do my work was with music."

In this study, the kitchen is a common place for students to learn in an online setting. Laura said, “In the kitchen...” during her interview.

The interviewees gave the researcher a great deal of insight into what a normal day would look like for students who were enrolled in DLA. When I asked them, seven (63.6%) indicated they learn at the kitchen table. Three (27.3%) noted that listening to music was a normal part of their learning. A notable six (54.5%) out of the eleven stated they set a schedule or routine for their day to complete assigned work. Only one mentioned taking numerous breaks to play video games.

Mathematics Achievement

Research Question 3a: How do they anticipate their performance will be in the online environment on their Math Unit 1 assessment?

Question 3b: What results emerge from comparing the actual performance data between the students who chose the hybrid F2F environment versus the online environment after taking the Mathematics Unit 1 assessment?

As a final component of the study, the researcher investigated students’ perceptions on students’ academic performance in mathematics. As shown in Table 11 students’ responses indicated that 22 (47.7%) strongly agree or agree to liking mathematics. When it came to investigating if they considered math as being an easy subject to learn, a surprising number of surveyed students 21 (38.9%) indicated that learning mathematics comes easy for them. Most reported that they felt they learned math better in a more traditional F2F learning environment, indicating they needed more teacher guidance and support to understand the math content.

Table 13. *Mathematics Self Reflection*

Questions	Likert Scale	Number (n=54)	Percent %
32. On a scale of 1-5 how much do you like mathematics?	5	14	25.9
	4	8	14.8
	3	16	29.6
	2	7	13.0
	1	9	16.7
33. Learning mathematics comes easy for me.	Strongly Agree	11	20.4
	Agree	10	18.5
	Neutral	22	40.7
	Disagree	6	11.1
	Strongly Disagree	5	9.3
34. I think I perform better in an online setting than in a traditional setting with an in-person teacher. (Mathematics)	Strongly Agree	4	7.4
	Agree	7	12.9
	Neutral	12	22.2
	Disagree	11	20.3
	Strongly Disagree	20	37.0

However, these perceptions did not map on to their actual performance on the Unit 1 Mathematics Common Assessment. During the interviews, I asked students about their perceptions on their performance of the Unit 1 Mathematics Common Assessment. Students were asked if they remember what they scored on their Unit 1 Mathematics Common Assessment and a discussion transpired after learning actual scores. Kera, Russell, and Laura really did not have any idea what they scored on the Unit 1 math assessment. Comparably, Annah, Donny and Frank who are all identified as high achievers knew they did not perform well. RaShaun was the only one who firmly stated he knew he did well because his mother helped him. He informed me, "…well I probably did alright. I have my momma to help when she not at work."

As previously mentioned, LaPoint County Public Schools has common assessments that all students at both middle schools are expected to take. This allows

cross-county comparisons and countywide Professional Learning Community (PLC) discussions on how to improve student learning. The Unit 1 Common Assessment average for both grades was a 62.2% for students in the hybrid setting with all students enrolled taking the test. The Unit 1 Common Assessment average for both grades in the distance learning setting was 48.7% (excluding all students who refused to take the assessment). There were 169 (37.8%) of the 447 enrolled distance learners who did not take the test. Averages were taken in two ways: excluding zeros for not taking test, and including zeros. With the zeros averaged, the district level average drops to a 23.6%. Getting a clear picture of students' performance in both environments was crucial to this research. There are real-time implications for the distance learning program and expectations but also an examination of the Unit 1 Common Assessment in making sure Odysseyware is adjusted to the same standards as being covered in the hybrid or traditional settings and suggests a need for a major revamping of Unit 2 curriculum to include Tier I (whole group interventions) to meet the needs students in the re-teaching of missed concepts. In comparison, 2019 LaPoint County Public Schools had a middle school Unit 1 Math Common Assessment average of 64.6%. While this average is not what districts want to see on a districtwide assessment, it does give a clear picture of students' performance in both settings. The 2019 to 2020 Unit 1 Mathematics Common Assessment percentages can be considered a true comparison of traditional learning environment versus distance learning environment on students' mathematics achievement. The 2019 & 2020, Unit One Math Assessments covered the same standards.

Monitoring DLA Students Work: Conflicting Information

Particularly interesting was the number of students who refused to take the test. In examining scores in both middle schools, there were 169 (37.8%) students in the distance learning setting that did not take the test. When the researcher called the distance learning academy to inquire as to why this number of students did not complete the Unit 1 Common Assessment, the response detailed how the distance learning teachers were trying to get these students to take the assessment. The students simply would not take it, even after multiple calls and emails to both students and parents/guardians. With that information, I decided to choose two students in my qualitative study sample who did not take the Unit 1 Common Assessment. Their answers were unexpected. As a researcher, and employee of a district, I know that parents and guardians have access to all individual grades for each subject. Many parents did not follow up and make sure their distance learner took the test. As a leader in the district, I shared the two responses with the distance learning teachers. They assured me, students knew where and how to access the test in their district accounts as they had taken tests for other subjects.

Examining students' perceptions of the scores and the actual performance score was very interesting to me as a principal and former math teacher. I want to know all I can about how students perceive their mathematical abilities so that as educators, we can address the struggles, praise the successes and create plans to move students in the direction of math proficiency.

Researcher: How do you feel about your performance on your first math common assessment?

Kera though she did well on her Unit 1 Assessment. In fact, she scored a 57%. She did note that she could have done better. She said, " My first "MAP" test I think I did

pretty well by how much I have learned this due to the COVID situation." I corrected her on the test I was referring to and she replied that she thought she could have scored higher if she were in a F2F setting. She stated, "Oh, then definitely I think I could have done better.

Annah knows her performance grades in school. She was not surprised when I told her that her score was a 66%. As both a GI and GT student, she is performing above grade level academically. She stated, "I did not feel good about that" She added to the conversations, "Well, in math I like being in front of a teacher because I can hear them explain it. I just can comprehend it better when I can hear and see it."

Donny was very insightful. He admitted that the first math common assessment was a challenge. He also thought he did not perform well. When I told him his actual score of an 86% he alluded that he considered this low and that he did not perform at his best. In addition, he stated he needed more experience with Odysseyware since it was a new learning tool and he needed to alleviate all the outside distractions. In addition, he spoke of his character he feels he has and knows he can do better. He did not lay blame on distractions for his 86%.

He stated,

> Uh, I mean it was a challenge. I don't think I did too good. I mean I have confidence though but it wasn't as easy as it is every year. I think I was more challenged with all the stuff and this new Odysseyware. I have learned more about myself. I have seen what kind character I have a little bit more. I would say I have learned how all the distractions around me go away but I can't say that because I don't have many distractions here.

Russell after finding out he made a 73% on the assessment noted,

> Okay. Uhm, I think I could have done better if… I feel like if I am with a teacher in the classroom teaching us I usually do better if I look and hear it coming from a person rather than a computer.

He also added,

> Well, actually when I am doing my homework at home I can have constant access to help from my brother, mother and dad. One of them is always home.

Frank knew he did poorly. He was the closest in know his actual score of a 68%; he though he scored a 60%. He stated very nonchalantly, "Oh, I think I got like a 60 something." Since Frank is normally a high achiever, I asked him if he thought he would have performed better on his math assessment if he would have been enrolled in the onsite setting.

His reply,

> Uhm, well I really think… well. I might have been able to score much higher (traditional setting). Also, it was the first weeks of DLA and I was still getting used to all of it. But, like now I know and I have my sibling help me. But the problem if I need help at that time I was just doing everything by myself and I would just click and answer and move on so I think a lot of it. I didn't focus to well on it. And there were somethings on it we had never talked about it before.

Brianna always short and to the point with her answers, asked "Average?*"* This let me know that she did not understand what I was asking. Therefore, I reframed the question. I gave her the actual score of a 44%, and she simply stated (she needed to) "Study even more."

When I asked Ashley about how she felt about her Unit I Math Assessment, her question to me was, "What do you mean?" I explained that she made a 57% on her first math test in October. She indicated she had no idea how she performed.

Her reply,

> Cause, I don't really get help. I can be like, "Hey, what's this question, how do I do it?" They like re-go over the lesson and I can like, "oh" get back on track. But, with electronics it's like "Hey, I have to search it up, then I have to do a Google meet with the teacher." Then something happens and yeah, I would rather be near

> the teacher so I can say, "Hey, what's going on with this?" So that I can understand it quicker and faster.

RaShaun felt he did all right on the math test. He made a 70%, and he like the fact that there was no time limit on the test and he could, "take his time with it". He also noted that he had his mother help him with it, when she was not at work. He replied, "Okay, well I probably did alright. I have my momma to help when she not at work. I do like I could take me time with it."

At the end of the interview, he did state, "I like math better with a teacher."

As a researcher when I was analyzing students' scores on the math assessment, I noticed the vast amounts of zeros reported in the data. I made a call to the DLA campus and spoke to the DLA teacher in charge of the mathematics. I inquired as to why there were so many zero. They simply stated that it was impossible to make the kids in DLA take the test if they did not want to take it. The teacher informed me there we Infinite Campus calls, and emails sent to parents telling them about the test, and then follow calls to parents of students who refused to take the test. Nazzie was one of those students.

When I asked Nazzie why she refused to take the Unit 1 Math Assessment, she quickly stated, "Because I couldn't get on it." I then inquired if there were connection or access issues as to why she could not "get on it" and she stated, "Odysseyware. I couldn't get my log-in."

I followed up this interview with a call to DLA to determine if indeed she had trouble or if it might have been an Odysseyware connection issue. I was told that she had taken other subject tests in Odysseyware and they followed the same format as the mathematics test. They also informed me that they had tried to call Nazzie's mother and grandmother to no avail was there any correspondence.

Lisa too did not take the first mathematics common assessment. When asked, she stated, that she did not take it "Because I was in DLA." Moreover, she could not explain to me why she did not take it. She just replied with a resounding "No." Following her no was a quick reply of "I couldn't find it." I wanted to make sure there was not a connection problem; she indicated again, "I just couldn't find it."

Finally, the last interview was Laura. She told me she was nervous taking her first online test, but felt confident she got a 94.2%. When I told her, it was actually a 73%, she replied,

> I was a little nervous because I didn't want to get a bad grade. But then I tried to do it the best way I could understand it. I think I do it better traditional. Cause I actually get to see my teacher. If I have questions, she can explain it the best way she can. I don't have to wait a while for her to send a message.

This part of the interview was very disturbing to me as a former math teacher. I want my students to do well and thrive in a mathematics classroom. For students to have a method of opting out of the taking a district assessment, I was disheartened about their view on taking responsibility to complete a required testing measurement.

Summary

Several advantages and disadvantages emerged from this mixed methods study for those enrolled in the optional distance learning academy (DLA) for LaPoint County Public Schools. Advantages noted were:

1. Distance learning provides an alternative educational environment to those families who were not comfortable with their children returning to a hybrid or traditional setting during a pandemic time-period. The rationale for a fully online choice was primarily due to fear of contacting COVID-19 and not related to obtaining a district laptop for

online home learning.

2. The online option gave those parents resources mapped to the standards needed to address grade level standards during a national health pandemic.
3. Provided information on computer access, usage and experience of middle school learners.
4. Students as positive aspects of the online learning environment noted flexibility and convenience.
5. Access to Internet Resources (technology and access points) were available for families with no previous hardware (computer) or Internet access, although some gaps persisted.
6. Students perceived that working at their own pace to complete assignments was positive.
7. Students were primarily at home with parents and siblings. In addition, parents with second and third shift jobs had the opportunity to be more active in their child's learning.
8. There was now a free option for online, virtual learning through LaPoint County Public Schools.
9. Gauging students' perceptions of their mathematics achievement.
10. Gauging students' perceptions where they think they learn best.

Disadvantages:

However, participants reported several disadvantages of a fully online Distance Learning Academy for Middle School Students. Participants noted disadvantages and

needed improvements to be addressed to better support students' work in a fully online option for middle school students.

1. Communication issues between student and distance learning teachers. Qualitative interviews indicated that it took too long for communication to occur between the student and teacher if students needed help on an assignment. Most communication occurred by chat box or email.
2. Prompt feedback on assignments. Student indicated that even though Odysseyware would automatically give you a grade if you completed an assignment or test, there was not feedback on what you missed.
3. Both quantitative and qualitative data indicated that students were not self-regulated enough to complete their assignments nor take assigned tests.
4. Re-teaching of standards concepts. Software like Odysseyware does not have a re-teaching feature or option tailored to individual students.
5. Synchronous learning with the teacher did not exist in the distance learning academy (DLA) on a daily basis. Students in the qualitative study stated they preferred and in some cases needed F2F with a teacher.
6. School personnel cannot supervise testing and assessments in Odysseyware. Students can opt-out of completing an assignment or test.

CHAPTER 5: CONCLUSIONS

This chapter presents a summary and discussion of the findings of the data analyses in Chapter 4. It is organized into sections that include 1) the impact that the health crisis COVID-19 had on families' access to technology and the Internet; 2) a picture of students' role in the choice to enroll in a fully online educational environment, and 3) finally students' perceptions and actual data on their experiences and academic performance. The findings from both the survey and phone interviews are also related to existing literature. A discussion of research questions, limitations, and recommendations for future research on middle school students' choice of learning environment are included.

Discussion of Findings

A narrative analysis chosen as the best technique to investigate middle school students' choice of enrollment in a fully online educational environment. This method allows for students in different geographical locations and in distance learning environment during a national health crisis to take the survey online (Turoff & Linestone, 2002). Interviews for the supportive qualitative study were conducted over the phone through Infinite Campus designated parent contact information. Data collections were guided by four research questions, thirty-one quantitative phase one-survey questions and four qualitative interview questions. To determine why students, choose an online virtual schooling experience to begin a full fall semester in middle school after having experienced the online virtual learning environments precipitated unexpectedly by the COVID-19 pandemic of spring 2020? To determine the significance of the data, mean and

standard deviations were calculated. Analysis of variance (ANOVA) statistical procedures were used and their results posted in Chapter 4.

Discussion of Findings Research Question 1:

How were the middle school students involved in the decision to opt for a fully online fall 2020 semester?

a. What were students' preferences?

b. What are their previous online experiences?

Virtual School Experiences of Middle School Students in DLA

Being a part of the Generation Z age group, online learning is becoming a natural platform for students and these students are commonly considered digital natives (Bennett, 2012; Chaiklin, 2010; Palfrey & Gasser 2011). With 30 (55.5%) of the 54 students in the quantitative phase reporting they have experience with online learning before this school year started, the need for online learning opportunities continues to grow. "Middle grades students are drawn to 21st century technologies more than any other age group; 11- to 14-year-olds spend 230% more time on non-school computer use than do 8- to 10-year-olds (Downes, & Bishop, 2012). Eighty percent of middle grades students own iPods or MP3 players, 69% have their own cell phones, 69% possess handheld video game players, and 27% own personal laptops (Downes, & Bishop, 2012; Rideout, Foehr & Roberts, 2010). In addition, like the participants in Eisenbach & Greathouse (2020) study a sense of self-efficacy in their ability to manage and navigate online course content was present as 55.6% indicated they felt proficient in their knowledge of how to learn online. However, despite their comfort with technology generally, students noted issues with the Odysseyware LMS online support. For

example, Odysseyware would “log [them] out” if a student was struggling and waiting for the teacher to get back with her through email. Oddly, the program would then save the previous work and it would look like that work had been completed and submitted when the assignment was not, in fact, finished.

Discussion of Findings Research Question 2

> To what extent do the qualitative interview survey results on student’s prior online educational experience validate, extend or conflict with the quantitative survey results?

Validate

Although students had some knowledge of online learning programs, Odysseyware was a completely new vehicle in the delivery of instruction. Several students mentioned online learning programs they were familiar with and had experience with during the interviews.

Online Knowledge

While 55.6% is an important indicator of student knowledge with online learning, educators need to incorporate more technology and online learning to increase students’ knowledge, experiences, satisfaction and proficiency in this environment. Interviews provided examples of other online educational experience. These included communicating through email with teacher, YouTube teaching videos , videos instead of just passages and chat box dialogues, video games, NTI learning from the past spring 2020 semester, and Google tools such as Google Classroom, Google meets, websites and Clever (a digital learning platform for K-12 students).

Extend

The interview data also extended an understanding of how the DLA technical and monitoring supports were problematic and likely affected the mathematics performance of the DLA students.

Change in Parental Oversight Options

For the DLA parents and students, there was drastic change in the way parents had access, and were able to view averages from individual assignments, tests and quizzes. Before the fall of 2020 only parents had access, individual student grades in Infinite Campus through their parent portal accounts. Students had access to the Infinite Campus accounts only if their parents gave the student their log in name and password. Odysseyware gives only a percentage of course work completed and grades earned on lessons, quizzes and tests. Technically these grades are not transferable to Infinite Campus. These two systems are not compatible for data entry all types of data entry. The only grade that DLA teachers entered into Infinite Campus was the "score-to-date" which is the current grade in the course. Nine-week averages were the only grade entered into Infinite Campus. It is not clear from the data the extent to which parents tried to oversee their child's work. However, these very different systems would have disrupted any parents' routine oversight patterns that may have been in place from their child's pre-pandemic middle school F2F days. Additional reflection on this incompatibility issue follows.

Technical Incompatibility & Accountability

Systems Synchronizing Student Information

System synchronization with Odysseyware and Infinite Campus caused other issues. These programs do not communicate and synchronize with each other. DLA

teachers had to access and work in two different programs each time they need to update or report grading percentages. If any adjustment needed to be made to final grades, or score-to-date grades, each time two systems had to be involved. In addition, any time a student unenrolled in LCPS to attend another county in the state, normally that district would have full access to grades, attendance, and work completed. This was no longer available.

School Accountability

DLA teachers had extreme issues with student accountability in completion of work. When district formative assessments from Unit tests to MAP skills assessments that are scheduled to be given three times were uploaded into Odysseyware accounts, some students simply refused take them. (See Chapter 4 math Unit 1 test results.) With MAP testing, the district put out Infinite Campus calls, flyers, emails, and mailings to parents of DLA students asking them to bring their child in for testing and a several parents simply refused. In addition, it is noted that of the guardians who brought their children in for testing, some of the students refused to give their best effort on the test. Proctors noted several students completing a 90-minute MAP test in 10 minutes.

State Accountability

Even though there will be no state accountability applied to this year's State Achievement test, the test is expected to be administered to all students in the state during the last 14 days of the school year. DLA students cannot be forced to come in and take the test. While the majority will, several will not. As a principal in the district, I am aware that students often converse on social media. When one group is not held accountable to having to take the test, the message quickly spreads. Our faculty is

working overtime to prepare incentives, continue to build relationships with the F2F students we have so the students will want to give their best effort and demonstrate competencies this May.

Navigation through Learning Management Systems

Student Navigation and Training

One of the issues regarding student online learning was teaching them how to navigate through two new programs (Odysseyware and Infinite Campus). Students were assigned six courses in Odysseyware. Training students to navigate their way through this new learning module fell on teachers who had little or no experience with it. It took several weeks just to train students on how to find all of their assigned course work. With only four teachers assigned to cover all students at the middle school level, it was difficult for teachers to learn the program themselves while simultaneously training students to use the program.

Parental Navigation with Systems

Not only were teachers and students struggling new technologies (i.e. Odysseyware), but parents were also having to learn how to find their child's assignments and grades. This new environment had a huge learning curve for parents. The number of missing assignments had some parents becoming frustrated not only with their child, but also with the program in not being able to determine if their child had completed the required assignments. The district soon realized a need for parent workshop opportunities were in order to help parents learn how to navigate through Odysseyware. These are planned for next year. Suggested topics for training and discussion need to include: parent, teacher and student responsibilities, overview of learning management

system student will be working on, student log-on username, and password, attendance expectations, grading guidelines, contact Online learning in LPCS is now an essential component of our district and offers yet another environment for parents and student to choose for their educational needs. Through national health crisis, we have learned many lessons and discovered many gaps in teacher, student, and parent knowledge.

Conflict

There were not substantial conflicts in evidence from the interview data. Most of the interview data either validated or extended the survey answers. The only contradiction that was noted in phase one of the quantitative survey questionnaire 88.9% of students indicated they had good Internet access at home and 1500 families indicating they needed a device to connect to the Internet. With 46.3% of surveyed students reporting they had their own device in order to learn virtually, I wondered as researcher if those needing and wanting a device should have been examined.

Findings Research Question 3

> In what ways do the perceptions of middle school students about their own learning; reveal successes and struggles in their chosen learning environment during the fall of 2020?

Milner IV (2007) posits in educational research there are dangers seen, unseen, and unforeseen. In this study, I was able to "see" by analysis of data or during interviews here students' perceptions, ideas, struggles and successes in a distance learning environment. Below I was able to expand upon my finding; what I was not able to see (unseen and unforeseen) are true concerns for students who have had to experience this

complete, overwhelming change to their educational settings. Some of the unforeseen aspects of a DLA learning environment were:

1. Students ability to opt out of taking a district common assessment.

2. Parent follow through with having their child complete their assignments.

3. Students and parents follow through with attendance and not logging into the Infinite Campus. This affects not only student records but also school and district attendance averages. Those Attendance Daily Averages (ADA) leads to financial monies districts received from State and Federal governments.

4. School unable to contact, find, and locate children and parents after multiple avenues of attempted contact (IC calls, emails, emergency contact numbers called) from a time beginning March of 2020.

5. Student who normally score above grade level expectations, scoring well below their norm and not really showing a great concern.

7. Parent follow through with multiple missing assignments leading to multiple failing averages in their courses.

Stage-Environment Fit Theory: Comments on the 'Fit'

Data from this study point to several factors that relate to the question regarding the extent to which the fully online DLA was a developmental and environmental "fit" for these middle level students. Students at this age are still maturing, they are just coming into their own (puberty) and developing the necessary life and learning skills they need to succeed. The mixed method data set paint a picture of a very difficult situation that in many ways challenged their readiness developmentally to cope in the online environment. The difficulties with assignment completion were one example of issues

related to self-regulation. The Odysseyware environment and teacher oversight were such that there was little opportunity to scaffold development of self-regulatory skills. Autonomy was one dimension of the DLA students liked, mostly setting their own schedules mostly and especially working at their own pace. However, as both the quantitative and qualitative data suggest most had little say in their enrollment choice. Also, it appeared many were not sufficiently supervised in their home environments, again an issue with both the school's choices of software which excluded parents from options for following up, that students could 'opt' out of assessments and difficulties engaging with teachers via email combined with working parents who were not engaged with their children's schooling. In addition, a very important finding was the widespread use of music by these DLA students. Again, opportunities for autonomy, but it was possibly distracting and did not promote self-regulatory skills. Their reported self-efficacy in mathematics was questionable as most were not successful in an online setting. Interestingly, all interviewees mentioned needing a teacher for that subject. Motivation to complete and turn in assignments on time was rated by 94.7% of students as only "often, sometimes, and rarely" with only 5.3% selecting "always and neutral". This suggests a disconnect in their investment in their own learning in this virtual environment.

Universal Design for Learning

The UDL model can be used to ensure that the DLA is meeting the needs of all learners and providing instruction that is challenging, flexible, and varied. By focusing on the "how" of learning in the Strategic Network phase of UDL, purposeful actions created in the environment will help revamp the learning process and provide avenues for

learners to communication their ideas. Using this model, can help ensure there are multiple means of engagement for students who choose to enroll in the DLA. By addressing collaboration issues, providing more teacher-to-student, student-to-student feedback activities, clarifying expectations for assignment completion, and providing choice of assignments for standard mastery, students can have pathways for active engagement that can lead to the next level of the UDL model addressing the "why" in learning. Through activities like discussion boards, synchronous meetings (Google Meets), and scaffolding of standards with completion date expectations, student motivation will enhance the DLA model for all stakeholders. Forty (75.9%) of surveyed students indicated on Question 29 (Odysseyware challenges me to extend my learning) they were extremely or slightly challenged by the program. While this was an indication of students feeling challenge in their learning, 64.8% of surveyed students indicated they wait until the last minute to complete an assignment in the program. Setting goals and benchmarks for students is needed to ensure students stay on track with completing of the program. Middle level learners need collaboration with teachers and peers. Social interaction has a strong influence on their learning. More collaboration and social interactions for the students is needed to improve the online environment.

Student Issues and Struggles

Working Well With Others

In today's world where teens are engrossed in social media outlets, and gaming, it was refreshing to note that 55.6% of surveyed students felt they worked well with their peers. Both Piaget and Vygotsky suggest several mechanisms by which students learn by working with each other in collaborative settings (Webb & Farivar, 1999). Vygotsky

(1981) views the "mental functioning" of the learner will develop through a process where the learner internalizes and transforms the content through social interaction (cited Webb & Farivar, 1999, p. 118).

Peer Feedback

One of the issues with a completely online educational environment is peer-to-peer feedback and discussion. Social interaction is such an important aspect of growth for this age group. The quantitative survey indications that working well was reported by 85.2% of respondents when they selected extremely well, very well or moderately well, incorporating more zoom or Google meet session should be looked at by the district to enhance the online learning platform. DLA teachers need professional learning on what types of interactive programs are out there for them to learn to work with students in an online format. Odysseyware is individualized, self-paced and does not included assignments for group or peer work. Looking for ways that DLA students can collaborate and work together on tasks needs to be researched and implemented.

Goal Setting

Zimmerman & Kitsantas (1996) studied the effects of goal setting and self-regulation on a group of high school girls in their mastery of motor-skills. This investigation supported that research by asking students in the distance learning setting if they tended to set goals for themselves. A surprising 73.3% of students reported strongly agreeing or agreeing with setting goals for themselves in order to complete a task. However, In the qualitative interviews none of the students spoke about setting goals for themselves in order to complete their Odysseyware assignments. An intentional activity around goal setting for each unit could be a strategy for DLA teachers to incorporate next

year as they are setting up their online learning classes. Designing and researching incentives for reaching attainable goals could enhance the participatory culture and student participation rate in completed assignments.

Students have been setting academic goals in reading and math for several years after taking the fall and winter NWEA MAP assessments for the district. NWEA is an online vendor that measures growth and proficiency in reading fluency, and mathematical competency. Students are administered this test three times yearly. Setting goals in these two academic areas has helped students know where they need to be by the end of the current academic year. These tests were also administered to middle school students in DLA. Nonetheless, setting goals did not seem to improve any of the students' Unit 1 Math Assessment performance. There was a mismatch of perceptions versus realities for these students when they were reflecting on their math performance on their Unit 1 Math Assessment. Data indicates that even the students with strong mathematics backgrounds from previous years grades scored below where they thought they scored.

Setting Schedules

Likewise, being able to set their own schedules was one of the most identified factors in both phases that students reported liking about their online educational setting. Survey item # 25 in the quantitative phase stated, "I tend to create a schedule to complete classwork" for students to agree with or not. Of those surveyed, 43 reported at they had set some type of schedule. To extend those answers, during the qualitative phase, six students (54.5%) stated they set a schedule and or routine for themselves to complete their Odysseyware work. Parent professional development on the importance and advantages of helping their virtual learner to set a learning schedule, and more

importantly following up on adherence is needed. More research is needed about how or if students schedule work, as over 97% reported not making up missed assignments (see self-regulation section below).

Where Students Completed Work

During the qualitative phase, I asked students where they were completing their online assignments. Of the 11 respondents, 8 (72.7%) reported working at a kitchen or dining room table, and the others reported a desk in a spare room or their bedrooms.

Setting up a productive learning environment at home is essential. Parents need to be educated on best practices. For example, parents could be directed to the Khan Academy educational program that has created an online resource for parents of virtual students. Choosing a location based on their child's learning preferences is the first step. Parents can allow students to choose various places for different subjects. Eliminating distractions like cell phones, televisions, video games, can also be helpful (perhaps essential for some students) for completing required assignments. The locations need to be comfortable with a table to accommodate learning supplies. Having good lighting, supplies on hand and allowing them to decorate their learning space are all discussed in the parent quick tips. Virtual teachers can share these ideas with both parents and students in future enrollment meetings.

Pace of Learning

When asked in both the quantitative the qualitative phases, one of the most reported topics in why a learner liked the online setting was an "own-pace" schedule. In the quantitative phase 87% of students strongly agreed or agreed that it was being able to work at their own pace that was a positive factor in the online setting. Supporting this

were qualitative phase interviews where 7 (63.6%) out of 11students reported some sort of pace with learning or completing work was a decisive factor in why they liked the online environment. Walker (2017) noted students reported optimal pace of learning was a key factor when working in an online setting. This study reflected that same result when students were asked what they like about being in a fully online setting.

The students' experiences in this study also support the research completed by Eisenbach & Greathouse (2020) where motivation to focus on assignment completion, "own-pace" schedules, directing their own learning, and independence in choosing location, structure and length of time committed to assignments were positives of participants (p. 5).

Districts can examine these findings regarding setting pace, schedules and goals in order to design an online mini-courses for both parents and students when enrolling in a distance learning environment. Having training and support can enhance the program and informing parents of what students deem important will help increase students' academic success.

Listening to Music While Learning

When interviewing students in the qualitative phase, 5 (45.4%) students reported that while doing their assignments, they listen to music. Results from a study conducted by Furnham and Bradley (1997) determined that immediate recall on the memory test was severely compromised for both introverts and extraverts when pop music was played (Dolegui, 2013). Further, Furnham and Bradley's (1997) research determined that pop music served as a distractor for the cognitive performance of both extraverts and introverts. These conclusions indicate that background noise, just like background music

impacts cognitive performance in ways that have not been fully understood. This information should be shared with parents in parent meetings when enrolling a distance online setting. Another tool for teachers in DLA would be to educate students on the effects of listening to music while learning by creating a best practice flyer or having a student or parent virtual night to go over aspects of being successful in an online learning environment. Certainly, monitoring students' use of music during instruction is far easier in F2F settings, and may in fact be very difficult, especially if DLA students cannot always be supervised by working parents.

Self-Regulation

These middle school students have had to learn to adapt to a dynamic change to their learning environments in the past year. Keeping up with grades, and expected google meet sessions with teachers has proven to be extremely hard for most middle school students as evidenced by the number of failing students in DLA. Surveyed students reported that 92.7% of students do not turn their work in on time. This lends to the age and mental maturity of students at the middle level.

Creating checklists for students can be one tool for both teacher and parents to use to help keep students on track. Rowlands (2007) notes that "well-designed checklists identify steps students can take to complete complex tasks, which scaffolds students' metacognitive development and fosters the confidence and independence needed for internalizing these steps for future tasks" (p. 61).

Internet Access and Computer Availability for Home-based Learning

Study participants report a key limiting factor was not necessarily the Internet connections for distance learners in the district's rural communities itself, but rather

computer devices (laptops e.g.) for individual use. During the initial phase of the pandemic, 881 students who enrolled in DLA, 1,500 families (52.1%) requested a district provided a laptop in order for them to have access to their learning modules. LCPS did not have enough laptops to meet the needs of the learners in the spring nor fall of 2020. Internet access was also a limitation for families. Actual Internet access was a strong positive factor as 88.9% of surveyed students reported that they strongly agreed or agreed when asked if they had strong Internet access where they live. These finding generally agree with a study by Rideout, Foehr & Roberts (2010) supports high percentages of students now have Internet access as shown in their study sample where 84% of students 8-18 years of age had home access to the Internet.

The most problematic issues were with multiple children in most homes, having to share one laptop per family. This situation caused major issues with students having the ability to complete their assignments. Finally, with the assistance of area federal financial programs, 100 families were given hotspots with 150 being placed on a waiting list. The district really had no answer at that time for the families on the waiting list. Families worked through the situation, however, there were many late assignments reported by students regarding the sharing of a laptop issue.

Communication

Communication and prompt feedback on assignments were also limited due to the high numbers of students who enrolled in DLA. Students being able to opt-out of taking tests and other assessments as well as parental/guardian follow-up with missing grades were factors that affected the distance learning environment.

Computer Distribution to DLA Families

In the spring and summer of 2020, LaPoint County Public Schools technology department created plans to address the goal of providing families who chose to enroll in the Distance Learning Academy a laptop to ensure students had hardware to access the online software program Odysseyware. In April 2020, 2,500 laptops were ordered from various companies, with the expected delivery date of July 2020. Upon examining the number of students enrolling in DLA, the technology department added 1,250 to the initial order. Frustrations quickly faced the district as COVID-19 government regulations across the globe hindered the delivery. Factories who were building the Google Chrome chip had to shut down, and minimize work force numbers. To add to this slow-moving process, further delays emerged due to factories not getting needed computer chips from their suppliers and arriving cargo ships computers in California being sent back to China due to unethical forced labor practices (Fox, 2020). To compensate for these delays and issues, LCPS was forced to remove laptops from the secondary schools to service DLA families with needed computer hardware.

Teacher Struggles

The actual onset of the health crisis of COVID in spring 2020 created an impossible situation for the middle level schools in the district. Having to close F2F instruction down completely and retool a complete online curriculum in four days (including one weekend) was a completely unreasonable expectation. Even with a summer to plan and try to ‘re-open’ schools and provide fully online options, the district and teachers did not have the time to provide the full supports needed to have a robust learning environment for teachers to perform practically

or pedagogically.

Students' Mathematics Performance

The final research question focused on mathematics performance for the DLA students. Clearly, these students' perceptions of their mathematics performance did not comport with their actual performance on the Unit 1 Math assessment. They also performed much worse than students in the hybrid learning environment. There were also concerns about the lack of parental follow up and some very disturbing findings on how the DLA students could simply 'opt out' of assessments and there was no path for accountability or remediation.

One aspect to consider is that not only are student learning in an online virtual setting, but also many parents are still at home working virtually. Parents support is needed to help them understand the implications of students not mastering content at the middle grades level and many parents do not have the mathematics background to help support their child. Resources both online and hardcopy are needed in both English and Spanish for parents and students to be able to close these huge mathematical skill gaps. On-line tutoring from 3:30 to 5:30 PM is offered for DLA students at LaPoint County Middle School due to their extended school services (ESS) 21st Century Community Learning Center grant. Information is sent out each month for tutoring help.

District planners and parents must understand that getting a laptop for their distance learner does not equate to success in an online learning environment. Professional development for both teachers, parents, and students is necessary for success. Consideration must be made for districts to create mini-courses for student and parents to learn the ins-and-outs of being a virtual learner and a parent of a virtual

learner. Only with effecting training, educational and best practice models can a distance learning environment be successful for all stakeholders.

General Limitations

There were several inherent limitations in this study. First, participants were limited to those enrolled in LaPoint County Public Schools; therefore, there was no randomization in the purposive sample, thus the findings are not generalizable to larger middle school populations. Second, only 12% of DLA students were involved in this study (54/447). Positionality of the researcher was both a limitation and an advantage. Potential biases from long-time employment in the district were mitigated with reflection and in fact, insider knowledge was often a plus, as in gaining access to the DLA teacher to clarify findings.

Significance of Study

By examining middle school learner enrollment choice in distance learning environment, this study provides a baseline understanding of needed resources, professional development, parent workshops, mental health needs and guidance for all stakeholders who wish to learn in this type of environment that was implemented initially in the dire circumstance of the COVID-19 national health crisis but which will now be a part of the district's options for middle level learners going forward. Virtually all schools nationwide have experienced the roller coasters of providing public schooling in the COVID-19 era – when decisions about opening or closing schools and managing quarantines and virus outbreaks required policy makers, school leaders, teachers, parents and students to 'turn on a dime' to meet an emerging crisis situation. This study delved into

actual implementation of a fully online option and is a window on to the daily realities of 'education in the COVID-era'.

Understanding Choice of the Fully Online Environment

Understanding how and why students and families chose to learn in a distance learning setting can help create, refine, and design successful online learning environments for this aged student. Student voice is critical in knowing how to meet their needs. Listening to their frustrations and successes can help inform districts with needed student and parent workshops, and teacher professional learning to meet the changing dynamics of the virtual learner and district policies such as monitoring student accountability.

One-to-one Technology Benefits

This study will help support ongoing data needed to reinforce LaPoint County Public Schools plan for one-to-one laptop initiative for middle and high school students in the future. Online learning environments can be an effective method for middle school students, but clearly, this study showed some real content area knowledge gain issues. Knowing this, districts can work to revamp the online learning environment through examination of curriculum, expectation for accountability with testing and communication between home and school. On-site options for teachers, students and parents are needed to ensure a smoother transition to a complete district online move due to inclement weather or another national health emergency. Ultimately, addressing the needs of adolescent online learners is paramount as we move beyond this national health crisis into a new world of learning in the 21st century.

Future Research

COVID-19 has forced districts to look at the K-12 learning structures differently and to provide unique opportunities that can change the face of instruction. From lessons learned during this time of crisis, this district other entities who experienced the same disruption due to COVID-19 would be better prepared for the future in creating this type of environment. Asking ourselves as educators what we have learned from students who chose the online option could lead new avenues of research to meet the needs of this new generation of learners.

Motivation and Engagements of Adolescent learners in an On-line Setting

Further research is needed to examine how to better support student engagement and motivation of middle school students in a distance learning environment who are in a fully online environment. Strategies and the amount and duration and kind of teacher support and effectiveness of any training for students and teachers is needed as districts prepare to move to fully online options that likely will persist after the national health emergency is over.

Time Management for Adolescents

Studying the time-on-task with online curriculum for the adolescent student is essential. Persistence with staying on task, completion of tasks, the difficulties with home distractions from chores to visitors and how these events affect student learning.

Distractors:

An interesting examination for future research is examining the many distractors in an online environment (i.e. music, TV, siblings, chores). Learning how these

distractors affect their academic achievement or retention of skills is a next step in understanding effects of COVID-19 on adolescent learners.

Students with Individual Educational Plans (IEP) & English Language Learners (EL):

Students with disabilities and English Language Learners (EL) suffered the most during the pandemic in the spring of 2020. Districts must find ways to not only meet federal Individual Educational Plans but also to address language barriers between teacher and EL students. There are several online translator programs; however, it is not the same as having fluent proficient teachers engage with students in an online learning environment. Examine how they fared during this pandemic could help create new workshops, lessons, resources and programs that will meet their IEP and EL needs.

Parent Involvement, Workshops & Resources

Researching ways to incorporate more parent involvement is essential. Districts need to address parent proficiency in online settings to help them know how to determine if their child is completing work, assessments, and logging in for attendance on a daily basis. Parents may not know or have the resources to set up a successful schedule, learning spaces in their homes for student learning, how to communicate effectively with distance learning teachers and most importantly, how to locate needed resources to help their learner be successful. Many parents in LCPS are grandparents with little to no knowledge of how to maneuver their way around technology. Parent workshops, virtual meetings and other avenues to contact these parents needs to be examine and implemented.

Researching parental knowledge on goal setting and schedule creations in order to

promote learning in their homes is an area that will help districts develop workshops, websites and tools for their parents. Assessing actual parent engagement with the students during their online learning is an area to examine. Understanding how parents' role changed during the COVID-19 health crisis can lead to future trainings being created for parents and students. Lastly, it would be interesting to study parents' responses and reflections regarding their year at home with their students in the virtual world, would they choose the same environment?

Parent Workshops on Media Use for Adolescents

The American Academy of Pediatrics (2013) released a policy statement offering recommendations for parents regarding media. They suggest limiting screen time to no more than two hours per day. This can be tricky in an online setting. However, through strategies of taking multiple breaks, creating a working space for school, no devices in the bedroom, and creating a family plan for media use that establishes rules for the use of cell phones and Internet for all family members. Curfews on devices is also a possible needed rule for parents to establish.

Epilogue

The observations detailed in this section are based on the researcher's 'insider' role as a middle level principal in district. After completion of the study, the LaPoint County Public Schools district acted quickly to address study findings that had significant impact on students' learning. For example, students failing math were returned to F2F instruction to improve academic performance and support. This epilogue provides an update on the DLA and strategies that were implemented in the spring semester post study data collection and are still evolving.

Unknown and Unforeseen Issues due to COVID-19

DLA Students Failing Grades

When the district ran Infinite Campus reports on the number of failing courses by student after the first nine weeks of instruction, the number was staggering. The district quickly set up a focus group to address the issue. It was decided that after many contacts with parents, there were only two options for those who were not managing students' learning. First, multiple calls and emails were made to parents. If students were not passing by 40% after December 19, 2020, COVID-19 concerns or not, unless the families had a medical note, those students were mandated to leave the DLA and required to re-enroll in their State A1 on-site designated school. Needless to the say, the high failure rate in math was an unforeseen issue that had started to surface in the first semester of DLA work.

DLA Student Attendance

DLA students were required to log on to IC each day to check in for attendance. When students failed to checking in after several days, the district's Pupil Personnel Office would contact the families. Sometimes contacts made corrected the issue. Other times, LCPS had to file truancy on the distance learners. LCPS works will with the district's court system. However, the backlog in case on truancy is staggering. On March 26, 2021, it was reported to secondary principals in our weekly meeting that any truancy issue that had been filed with the court would not be heard until June as the numbers of families turned in to the court system.

Impact on State A1 Schools after DLA Students Re-enrolled

Many factors had to be addressed by the A1 School when DLA students re-enrolled in January 2021.

Grade Percentages

Most students who were re-enrolled in a F2F setting due to multiple failing grades were very apathetic about this change. These students had not been a F2F educational setting since March of 2020. They were entering with averages well below any possibility of moving on to the next grade unless something drastic was done. Secondary schools quickly set up focus and finish classrooms. These classes were to help DLA student do alternate assignments in order to have a chance of moving on to the next grade level. The focus was placed on grade level standard knowledge attainment and not individual grade percentages. Creating new assignments that addressed these standards were placed on the Focus and Finish teachers. Student were not only having to complete missing standard work but it was expected they complete any new work for the current semester.

Returning Students' Behaviors

Most students who returned to their A1 designated school quickly fell back into normal school routines. However, compliance with school rules and schedules were aspects where returning students struggled. A few students struggled with new sleeping schedules. One such student who liked to stay up until 12 AM or later and then sleep in the next morning would want to put his head down during instruction. Returning students had to relearn how to speak to teachers, work with peers, and honestly converse with

others without social media and a cell phone. Student aggression was an issue that teachers and administration had to deal with.

State Senate Bill 128

State Senate Bill 128, otherwise known as the school 'redo' bill, passed in the State House 92-5 on March 17, 2021. The bill offers any student enrolled in the State's public or private school in grades kindergarten through 12th grade during the 2020-21 school year to request to use the 2021-22 school year as a supplemental school year to retake or supplement the courses or grades the student has already taken.

Final Reflections:

As an educator, I have 26 years of experience in various school districts and settings; I have discovered there is no stress on the educational setting like a pandemic. This past year has been one of my hardest as a leader and an educator. Until you have walked in the shoes of a public administrator, you likely have never felt stress like the one we have dealt with this past year. While making decisions with my leadership team for my teachers, students, and staff as we operated on a week-to-week unknown COVID-19 pandemic and government schedule. Implementing a hybrid setting one week, then offering fully online, then finally transitioning to a fully traditional setting all in one year was unbelievable. Just the planning for instruction was a monumental task. Nevertheless, our teachers rose to the occasion. Having an all-in attitude, fortitude and determination that we would provide the best learning environment possible, created a strong team even as we swung back and forth like sails on a ship. We are dealing with the aftermath of students' returning behaviors, failing grades and revamping our learning environments.

We not only dealt with mental health issues, we were constantly sanitizing desks, using hand sanitizer every 45 minutes after each class change and grabbing gloves just to touch the water fountain handle. Reminding students to stay six feet from other students, to pull up their mask to cover both their mouths and their noses, to not touch each other (this is a middle school setting) all the while keeping a smile on our faces to keep culture at a highly positive level was, frankly, exhausting.

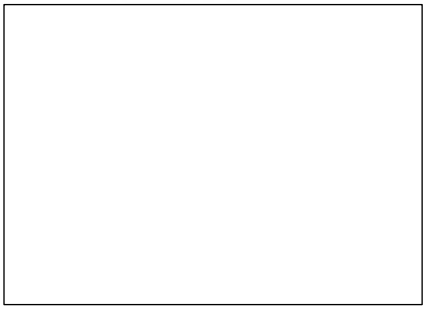
Teachers learning a new management system two weeks before school started with students not being in a one-to-one technology environment was challenging to say the least. Nevertheless, we learned, adapted and overcame more obstacles than the public could imagine.

Athletics was one of the most harmful losses during this time. Many students use this as an outlet and we as educators use athletics as a bonus to encourage students to work hard and complete assignments so they will be eligible to play. The regulations changed on a weekly basis and had everyone jumping to meet items like only five ball players in the gym at one time. Before the next set of five could enter, the entire gym, locker room, restrooms had to be sprayed down and sanitized. After every student entered a bathroom stall, it had to be completely sanitized before the next player could go in.

I am proud of the resilience of my staff, my students. The trust and faith parents placed on us during this time was profound. The response of the faculty during this pandemic demonstrated and continues to demonstrate the resilience of educators to overcome even what may have seemed to be insurmountable challenges.

APPENDICES

Appendix A



Wendy M. Duvall - [redacted]

[redacted]

[redacted]

[redacted]

RE: Permission to Conduct Research Study

Dear Mr. [redacted]:

I am writing to request permission to conduct a research study at the [redacted] County [redacted] Learning Academy [redacted] I am currently enrolled in the University of Kentucky in Lexington, KY, and am in the process of writing my dissertation proposal. The study is entitled Understanding Students' Choice of a Fully Online Educational Environment during the fall of 2020 COVID-19 National Health Emergency: A Mixed Methods Study.

I hope that the school administration will allow me to survey all middle school students enrolled in [redacted] the fall of 2020. They students will be asked a series of questions with multiple choice answers and short open response for them to share their feelings. Interested students, who volunteer to participate, will be given a consent form to be signed by their parent or guardian (copy enclosed) and returned to the primary researcher at the beginning of the survey process. Parents who volunteer to participate will also be given consent forms to be signed and returned to the primary researcher (copy enclosed).

If approval is granted, student participants will complete the survey in a virtual The survey process should take no longer than 20 minutes. Parent participants would complete the survey at home. The survey results will be pooled for the thesis project and individual results of this study will remain absolutely confidential and anonymous. Should this study be published, only pooled results will be documented. No costs will be incurred by either your school/district or the individual participants.

Your approval to conduct this study will be greatly appreciated. Please sign

Sincerely,

Wendy M. Duvall, [redacted] and Principal Investigator

Enclosures

Appendix B

[redacted] COUNTY PUBLIC SCHOOLS

[redacted]

September 2, 2020

Mrs. Wendy M. Duvall
Principal Investigator
Doctoral Candidate
University of Kentucky
410 Administration Drive
Lexington, KY 40506

Subject: Permission to conduct research

Dear Mrs. Duvall:

We are pleased to inform you that you have received permission to conduct your referenced research with the students attending the [redacted] Learning Academy [redacted]. Your initiative will produce valuable data to understand this new mode of learning for our middle school students.

Please work with Mrs. [redacted] in order to obtain parent and student assent. We understand that participation is voluntary for parents and students.

You are hereby authorized to work with the [redacted] school, enrolled parents and students.

Good luck on your research and completing this milestone.

Sincerely,

[redacted]

[redacted]

Appendix C

IRB Approval
10/20/2020
IRB # 61955
NMED

Consent to Participate in a Research Study

KEY INFORMATION FOR: SUBJECT CONSENT FORM FOR PARTICIPATION OF HUMAN SUBJECTS (MIDDLE SCHOOL STUDENTS) IN RESEARCH UNIVERSITY OF KENTUCKY

Project Title: Understanding Students' Choice of a Fully Online Educational Environment During the fall of 2020 COVID-19 National Health Emergency: A Mixed Methods Study

Researcher: Wendy M. Duvall, Candidate for Doctorate of Education (EdD) Phone: (270) 839-8307
Research Advisor: Joan Mazur, Ph.D., Professor with the University of Kentucky Phone: (859) 481-1413

WHAT IS THE STUDY ABOUT? I am a graduate student at the University of Kentucky. I am interested in learning more about student's choice in a fully online educational environment. If you agree to allow your child to participate in this study, I am requesting that your child take an online survey and if selected, participate in a phone interview with me to understand their learning environment preferences of choosing an online distance learning environment with the [ ] Learning Academy.

HOW LONG WILL THE SURVEY/PHONE INTERVIEW LAST & WHO WILL SEE RESULTS? The survey questionnaire has about 30 questions that are mostly multiple choice and should take about 20 minutes. Your child's answers will be coded so none of their data is identifiable to anyone but the researcher. The survey will ask students to enter month of their birth, day of their birth and their last four digits in student identification number assigned to them when they were registered with the State of Kentucky in a public school. The students currently use this number as a part of the [ ] password. The complete results will be shared with [ ] Superintendent and the University of Kentucky. The second part of my study is a follow up phone interview with a select group of students (approximately 15), and those parents will be contacted via Infinite Campus. I will only be asking 4 follow-up questions that should only take about 10 minutes; a verbal assent from students will be obtained before I ask the follow-up questions. The phone conversation will be recorded, so that I can get an accurate accounting of student answers. Your child will be able to choose not to answer any question for any reason. I will make every effort to safeguard student data, but as with anything online, I cannot guarantee the security of data obtained via the Internet. Third-party applications used in this study may have Terms of Service and Privacy policies outside of the control of the University of Kentucky.

WHAT ARE KEY REASONS YOU MIGHT CHOOSE FOR YOUR CHILD TO VOLUNTEER FOR THIS STUDY? Your child does not have to participate in this study, and it will have no impact on their grades or academic standing. However, it would be greatly appreciated to help us create more accessible distance learning classes for students of this age. All of the information your child provides me will be confidential. Although there are no direct benefits to you or your child, this research may help improve future research of student choice regarding fully online learning environments at the middle school level. Your child's information collected for this study will NOT be used or shared for future research studies, even if I remove the identifiable information like your child's name, or date of birth.

WHAT ARE KEY REASONS YOU MIGHT CHOOSE FOR YOUR CHILD NOT TO VOLUNTEER FOR THIS STUDY? DOES YOUR CHILD HAVE TO TAKE PART IN THE STUDY? IS THERE BENEFITS TO TAKING THE SURVEY OR PARTICIAPTING IN THE PHONE INTERVIEW? Your child is at very little risk for participating in this study. If at any time you decide you do not want your child to participate in this study with Mrs. Duvall, you may withdraw them. It would be greatly appreciated to help me understand how students at this age are doing in our new distance learning program. There is no compensation for your or your child for this study.

AUTHORIZATION: I (Parent/Guardian) have read the above and understand the nature of this study and agree for my child to participate. I understand that by agreeing to participate in this study I have not waived any legal or human rights of my child. I also understand that I have the right to refuse for my child to participate and that my right to withdraw them from participation at any time during the study will be respected with no coercion or prejudice. I also understand that participation is voluntary and there is no compensation for me or my child for participating.

WHAT IF YOU HAVE QUESTIONS, SUGGESTIONS OR CONCERNS? If you have any concerns for my selection for this study or how my child was treated, You may contact: Dr. Joan Mazur, Department of Curriculum & Instruction, University of Kentucky, Lexington, KY 40506 phone (859) 481-1413. Alternatively, if you have any concerns or questions about your rights as a volunteer in this research, contact staff in the University of Kentucky (UK) Office of Research Integrity (ORI) between the business hours of 8am and 5pm EST, Monday-Friday at 859-257-9428 or toll free at 1-866-400-9428.

STUDENT NAME: _____

PARENT/GUARDIAN NAME: _____ _____, Date: _____
PLEASE PRINT Parent or Guardian Signature

Appendix D

IRB Approval
10/20/2020
IRB # 61955
NMED

Appendix D **STUDENT ASSENT FORM-Quantitative Survey**

Project Title: Understanding Students' Choice of a Fully Online Educational Environment During the fall of 2020 COVID-19 National Health Emergency: A Mixed Methods Study

I am working on a special research study for my college class at the University of Kentucky. Right now, I am trying to learn about how students in grades 7 & 8 made the choice to attend a fully online virtual learning environment when you enrolled in the [ ] County [ ] Learning Academy. I would like to ask you to help me by being a part of this study with phase one by taking a survey. I am asking you to help me because you are a middle school aged student and that is the age group I am curious about. I am also asking you because you have been in the [ ] learning environment over seven weeks. I know that I will learn a lot from your survey answers and your answers can help us make [ ] even better.

If you agree to be a part of my study, EVERYTHING will be kept confidential. I will not use your name, what middle school you attend, or any other identifiable information about you. Only your answers will be used. Your answers will only be identifiable by your special code. That code is created from your birth month number, your birthday number and your four-digit code you use for your student email account. (Example if you were born May 12th and your email password four-digit code is 0034, you will enter 05120034).

I have created a GOOGLE form that has approximately 30 multiple choice and short answer questions. The question answers range from strongly agree to strongly disagree and it will take you about 15 to 20 minutes to take it. I will send it to your through your school email account after I get parental permission. At a later date, you may be contacted to complete a brief phone interview with me as a follow-up to the survey.

I have asked your parent or guardian if you can be in my study and they have given permission. However, if you do not want to be in the study, you do not have to be and I will remove your survey data. What you decide will not make any difference with your grades or how your teachers think about you. I will not be upset, and no one else will be upset, if you do not want to be in the study. If you want to be in the study now but change your mind later, that is okay too. You can stop at any time or if you choose not to answer any question for any reason, you may do so. If there is anything, you do not understand you should tell me so I can explain it to you.

There is no compensation for you or your parents. You are volunteering to help me know more about middle school student preferences. If you have a question later, you or your parents can email me at wendy.duvall@[ ] or call me at [ ]

If your parents have any concerns, they can contact Dr. Joan Mazur, Department of Curriculum & Instruction, University of Kentucky, Lexington, KY 40506 phone: (859) 481-1413). Alternatively, if you have any concerns or questions about your rights as a volunteer in this research, contact staff in the University of Kentucky (UK) Office of Research Integrity (ORI) between the business hours of 8am and 5pm EST, Monday-Friday at 859-257-9428 or toll free at 1-866-400-9428.

Student Name: _____
PRINT YOUR NAME

Signature of Student: _____ **Date:** _____

Appendix E

FORM-Qualitative Survey

Project Title: Understanding Students' Choice of a Fully Online Educational Environment During the fall of 2020 COVID-19 National Health Emergency: A Mixed Methods Study

I am working on a special project (called a "study") for my college class at the University of Kentucky. Right now, I am trying to learn about how students in grades 7 & 8 made the choice to attend a fully online virtual learning environment when you enrolled in the [ ] County [ ] Learning Academy. I would like to ask you to help me by being a part of this study with phase two the phone interview. Before I start the interview, I want to explain what will happen if you decide to help me. I am asking you to help me because you are a middle school aged student and that is the age group I am curious about. I am also asking you because you have been in the [ ] learning environment over six weeks and you have learned a lot about how it runs. I know that I will learn a lot from our conversation and your survey answers.

Everything you will do if you agree to be a part of my study. I will be recording our phone conversation so that when I report what you say it will be exactly as you said it. I will not use your name or any other identifiable information about you. Only your answers will be used. I will not use your name, or what middle school you attend.

I have asked your parent or guardian if you can be in my study and they have given permission. But, if you don't want to be in the study, you don't have to be and I will remove your survey data from the study as well. What you decide will not make any difference with your grades or how your teachers think about you. I will not be upset, and no one else will be upset, if you do not want to be in the study. If you want to be in the study now but change your mind later, that is okay too. You can stop at any time and if you choose not to answer any question for any reason, you may do so. If there is anything, you don't understand you should tell me so I can explain it to you.

If you have a question later that you do not think of now, you can ask me anytime. Do you have any questions for me now?

Would you like to continue to be a part of my study and continue with the phone interview? I will be asking you 4 questions and it only take between 5 and 10 minutes for you to answer them.

End of verbal script.

NOTES TO RESEARCHER: The child should answer "Yes" or "No." Only a definite "Yes" may be taken as assent to participate.

Name of Child: _____Parental Permission on File: ☐ Yes ☐ No

If "No," do not proceed with assent or research procedures.)

Child's Voluntary Response to Participation: ☐ Yes ☐ No

Signature of Researcher: _____ **Date:** _____

Appendix F

Wendy M. Duvall – I

Dear Parent/Guardian Name,

My name is Wendy Duvall, not only am I a principal for (County Public Schools, I am also a graduate student at the University of Kentucky. This letter is to introduce to you to my study and ask that you allow your child to participate in an online survey and if chosen a quick follow up phone interview. My study will be centered on examining student preferences in choosing our Learning Academy as their primary learning environment. I have prepared a YouTube introduction video that can be viewed at https://youtu.be/g50fr9AKObw.

The survey has about 30 questions that are mostly multiple choice and should take about 15-20 minutes. Your child's answers will be coded so none of their data is identifiable to anyone but the researcher. The complete results will be shared with Superintendent and the University of Kentucky. Again, no identifiable information on your child's responses will be shared. After getting all the survey results from students, I am going to select about 15 students to interview over the phone for about 10 minutes. I plan on asking four follow questions about what they and their peers answered on the survey.

Participation is voluntary for students. If at any time you decide you do not want your child to participate in this study with me, you may voluntarily withdraw from the study. Your child does not have to participate in this study, but it would be greatly appreciated to help me gather data regarding why middle school students prefer distance learning classes.
I have enclosed a consent form for you to sign and an assent form for your child to sign. If you will allow me to survey and interview your child, please return both in the enclosed self-addressed stamped envelope.

I hope that your year with Learning Academy has been a success. I look forward to working with you and your child. Please check out the video I sent to your email account on file.

Sincerely,

Wendy M. Duvall

Appendix G

Quantitative Component -Survey Questionnaire

Likert scale responses will be scored on a 1-5 scale. Assigning a point system will allow for a mean, SD, and variance to be obtained*: 5-point scale as follows: 1 for strongly disagree, 2 for disagree, 3 for neither agree nor disagree, 4 for agree, and 5 for strongly agree.*

Survey Questions:

(Demographics)

1. What is your birth month? (Drop Down Choice)
2. On what day of the month were you born? (Drop Down Choice)
3. What is your last four numbers of your LCPS password? Short answer
4. What grade are you in? (Drop Down Choice)
5. What is your gender? (Drop Down Choice)

(Computer Access/Usage/Learning)

6. I have good Internet access where I live. Y/N
7. I have my own computer (NOT ONE GIVEN by LCPS) to use for virtual learning). Y/N
8. I needed a Chromebook from LCPS to be an online Virtual Learner. Y/N
9. I have previous experience using online programs. (Likert-Scale)
10. I know how to use an Internet search engine? (Likert-Scale)
11. I have experience with on-line learning before this school year started. (Likert-Scale)
12. I enjoy working on a computer. (Likert-Scale)
13. I know how to send an email to my teachers. (Drop Down Choice)
14. Online learning is exciting. (Likert-Scale)
15. What types of social media do you use? (Drop-down box) (Instagram, Snap Chat, Facebook, Text Messaging) check all that apply

(*Learning Environment Choices)*

16. My parents chose my learning environment for me due to COVID-19. Choose the best answer. (Drop Down Choice)
17. I had an active role in choosing my learning environment (Virtual or In-Person (Traditional)). (Meaning- I was able to choose which learning environment I enrolled in.) (Likert-Scale).
18. If I were able to completely choose what type of school I am in, I would choose (Virtual, Blended (both virtual and traditional), or Traditional only)? (Drop down)

(Learner Characteristics)

19. I work well with others. (Likert-Scale)
20. I believe I am a high achiever. (Likert-Scale)
21. I like learning at my own pace. (Likert-Scale)
22. I can set goals in order to complete assigned tasks. (Likert-Scale)
23. I complete and turn in my assignments on time? (Likert-Scale)
24. When I have an assignment, I can usually figure it out myself. (Likert-Scale)
25. I tend to create a schedule to complete classwork. (Likert-Scale)

26. Learning with a teacher is easier than learning by myself in an on-line setting. (Likert-Scale)
27. I tend to wait until the last minute to finish an assignment. (Likert-Scale)

(Odysseyware)

28. *Odysseyware* is easy to access through the Internet. (Likert-Scale)
29. *Odysseyware* challenges me to extend my learning. (Likert-Scale)
30. I complete my assignments as soon as assigned in *Odysseyware*. (Likert-Scale)
31. I stick with a task assigned in *Odysseyware* until it is complete. (Likert-Scale)

(Mathematics)

32. On a scale of 1-5, how much do you like mathematics? (1-Extremely Dislike to 5 Extremely Like)
33. Learning mathematics comes easy for me. (Likert-Scale)
34. I think I will perform better in an online setting than in a traditional setting with an in-person teacher. (Likert-Scale)

Appendix H

Qualitative Component – Semi-Structured Phone Interview Questions:

Project Title: Understanding Middle School Students' Enrollment Choice of a Fully Online Educational Environment During the fall of 2020 COVID-19 National Health Emergency: A Mixed Methods Study

1. Talk to me about how your family decided to enroll in the Distance Learning Academy.
2. Describe for me your where and how you learn in your distance learning environment.
3. You have been enrolled in this learning environment now for 7 weeks, what do you like about it? What would you like to see changed?
4. How do you feel about your performance on your first math common assessment?

Appendix I

FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT

FERPA and Affidavit of Non-Disclosure

FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT

If during the course of this agreement, [ ] *County Public Schools* discloses to the contractor any data protected by the Family Educational Rights and Privacy Act of 1974 (FERPA), as amended, and its regulations, and data protected by the Richard B. Russell National School Lunch Act (42 U.S.C. 1751 et seq)(NSLA) and Child Nutrition Act of 1966 (42 U.S.C. 1771 et seq.)(CNA) the contractor is bound by th confidentiality, security and re-disclosure requirements and restrictions stated in FERPA, NSLA and CN/ and will enter into a confidentiality agreement and ensure its employees and contractors execute affidavits of nondisclosure as required by [ ] *County Public Schools*. The confidentiality agreemer and affidavits will then become part of this original agreement.

[ ] **County Public Schools**

EMPLOYEE OR CONTRACTOR GENERAL AFFIDAVIT OF NONDISCLOSURE

Employee or Contractor Name: Wendy Duvall

Title: [ ]

Office: [ ]

Supervisor: [ ]

Address: [ ]

Phone: [ ]

If, in the performance of my official job duties, I am provided access to confidential information (information designated as confidential by FERPA, NSLA, CNA, KRS 61.931(6), or other federal or state law), by signing this document I agree to the following:

- I will not permit access to confidential information to persons not authorized by *Christian County Public Schools*.
- I will maintain the confidentiality of the data or information.
- I will not access data of persons related or known to me for personal reasons.

- I will not reveal any individually identifiable information furnished, acquired, retrieved, or assembled by me or others for any purpose other than statistical purposes specified in a [ ] *County Public Schools* survey, project, or proposed research.

- I will report, immediately and within twenty-four (24) hours, any known reasonably believed instances of missing data, data that has been inappropriately shared, or data taken off site
  - to my immediate supervisor, Associate Commissioner, and
  - to the Division of Human Resources if I am a [ ] *County Public Schools* employee or
  - to the [ ] *County Public Schools* Office for whom I perform work under the contract if I am a [ ] *County Public Schools* contractor or an employee of a [ ] *County Public Schools* contractor.

I understand that procedures must be in place for monitoring and protecting confidential information.

- I understand and acknowledge that FERPA-protected information obtained under provisions of Family Educational Rights and Privacy Act of 1974 (FERPA) as an employee or contractor of [ ] *County Public Schools* is confidential information. [ ] *County Public Schools* protects information in students' education records that are maintained by an educational agency or institution or by a party acting for the agency or institution, and includes, but is not limited to the student's name, the name of the student's parent or other family members, the address of the student or student's family, a personal identifier, such as the student's social security number, student number, or biometric record, other indirect identifiers, such as the student's date of birth, place of birth, and mother's maiden name, and other information that, alone or in combination, is linked or linkable to a specific student that would allow a reasonable person in the school community, who does not have personal knowledge of the relevant circumstances, to identify the student with reasonable certainty.

- I understand that any unauthorized disclosure of confidential information is illegal as provided in FERPA and in the implementing of federal regulations found in 34 CFR, Part 99. The penalty for unlawful disclosure is a fine of not more than $250,000 (under 18 U.S.C. 3571) or imprisonment for not more than five years (under 18 U.S.C. 3559), or both.
- I understand and acknowledge that children's free and reduced price meal and free milk eligibility information or information from the family's application for eligibility, obtained under provisions of the Richard B. Russell National School Lunch Act (42 U.S.C. 1751 et seq)(NSLA) or Child Nutrition Act of 1966 (42 U.S.C. 1771 et seq.)(CNA) and the regulations implementing these Acts, is confidential information.

- I understand that any unauthorized disclosure of confidential free and reduced price lunch information or information from an application for this benefit is illegal as provided in the Richard B. Russell National School Lunch Act (42 U.S.C. 1751 et seq)(NSLA) or Child Nutrition Act of 1966 (42 U.S.C. 1771 et seq.)(CNA) and the regulations implementing these Acts, specifically 7 C.F.R 245.6. The penalty for unlawful disclosure is a fine of not more than $1,000.00 (under 7 C.F.R. 245.6) or imprisonment for up to one year (under 7 C.F.R. 245.6), or both.

- I understand that KRS 61.931 also defines "personal information" to include:
  - an individual's first name or first initial and last name; personal mark; or unique biometric or genetic print or image, in combination with one (1) or more of the following data elements:
  - An account number, credit card number, or debit card number that, in combination with any required security code, access code, or password, would permit access to an account;(b) A Social Security number;
  - A taxpayer identification number that incorporates a Social Security number;
  - A driver's license number, state identification card number, or other individual identification number issued by any agency;
  - A passport number or other identification number issued by the United States government; or
  - Individually identifiable health information as defined in 45 C.F.R. sec. 160.103, except for education records covered by the Family Educational Rights and Privacy Act, as amended, 20 U.S.C. sec. 1232g.

- I understand that other federal and state privacy laws protect confidential data not otherwise detailed above and I acknowledge my duty to maintain confidentiality of that data as well.

- I understand that any personal characteristics that could make the person's identity traceable, including membership in a group such as ethnicity or program area, are protected.

- In addition, I understand that any data sets or output reports that I may generate using confidential data are to be protected. I will not distribute to any unauthorized person any data sets or reports that I have access to or may generate using confidential data. I understand that I am responsible for any computer transactions performed as a result of access authorized by use of sign on/password(s).

Employee Signature: _____

Date: 7/30/20

Division of HR Representative Signature: _____

Date: 9/28/20

Appendix J

Confidentiality Agreement

1. Confidential Information The Research Project undertaken by PI, Wendy M. Duvall hereby confirms that it will disclose certain of its confidential and proprietary information to their interview certified transcriptionist with Mary Konopka. Confidential information shall include all data, materials, products, technology, computer programs, specifications, manuals, software and other information disclosed or submitted, orally, in writing, or by any other media, to CITI Mary Konopka by Wendy Duvall.

2. Obligations of Transcriptionist

A. Mary Konopka hereby agrees that the confidential Wendy Duvall's research study and is to be used solely for the purposes of said study. Said confidential information should only be disclosed to employees of said research study with a specific need to know. Mary Konopka hereby agrees not to disclose, publish or otherwise reveal any of the Confidential Information received from research project of Wendy Duvall, research assistants or other participants of the project to any other party whatsoever except with the specific prior written authorization of Wendy Duvall.

B. Materials containing confidential information must be stored in a safe location so as to avoid third persons unrelated to the project to access said materials. Confidential Information shall not be duplicated by Mary Konopka except for the purposes of this Agreement.

3. Completion of the Work.

Upon the completion of the work and at the request of Wendy Duvall, Mary Konopka shall return all confidential information received in written or tangible form, including copies, or reproductions or other media containing such confidential information, within ten (10) days of such request. At Wendy Duvall's option any copies of confidential documents or other media developed by Mary Konopka and remaining in her possession after the completion of his work need to be destroyed so as to protect the confidentiality of said information. Mary Konopka shall provide a written Certificate to owner regarding destruction within ten (10) days thereafter. With her signature, Mary Konopka shall hereby adhere to the terms of this agreement.

Mary Konopka
Mary Konopka, Signature

09-27-2020
Date

Appendix K

THE GLOBAL HEALTH NETWORK

Enabling research by sharing knowledge

Hereby Certifies that

MARY J KONOPKA

has completed the e-learning course

RESEARCH ETHICS

with a score of

88%

on

16/11/2019

This e-learning course has been formally recognised for its quality and content by the following organisations and institutions

WWARN

LSTM LIVERPOOL SCHOOL OF TROPICAL MEDICINE

THE GLOBAL HEALTH NETWORK

Enabling research by sharing knowledge

Global Health Training Centre
globalhealthtrainingcentre.org/elearning

Certificate Number 1123953

Appendix L

Video Script for Parent/Guardian Introduction to Research Study

Quantitative Data Video Script for Parents/Guardian

Good Afternoon Parents/Guardian and Students, My name is Wendy Duvall and I am currently the [ ]. Not only am I [ ] but I also a graduate student at the University of Kentucky. This week in the mail, you will be receiving this correspondence from me. As part of my research, I am interested in learning more about student choice in a fully online education setting. Parents and Guardians, I am asking that you allow your child to take a short survey and if selected, a phone interview with me to understand their learning environment preferences in choosing to enroll in the [ ]County Public Schoo[ ] Learning Academy. The survey has about 30 questions that are mostly multiple choice and should only take about 15 to 20 minutes. I will be sending home a consent form in the mail. If you are willing to allow your child to take the survey, please read it, print both your name and your child's name at the bottom, sign it and return to me it in the envelop provided.

Thank you for helping me with examining student choice in a fully online environment. If you have any questions, please feel free to contact me at [ ]. I look forward to working with you and our middle school students this fall. Have a great evening.

YouTube Link: https://youtu.be/g50fr9AKObw

Appendix M

Qualitative Study Students' Transcripts of Interviews

Student #1: Kera (pseudonym)

Kera is an 8th grade student in DLA. Under [redacted] State Ethnicity Codes, she is labelled White. She lives in a single parent home with her mother and siblings. She is the oldest of all the children. In 2019, her 1st nine-week grade for mathematics was an 82(B). In 2020, her 1st nine- week grade is mathematics was a 74 (C). NOTE: Kera attended DLA for 18 weeks. After failing four or more classes in December 2020, she was removed by the district. Kera is now attending the traditional school setting at LaPoint County Middle School (pseudonym) where her 3rd nine-week current grade in mathematics as of January 2021 is an 89 (B).

1. Talk to me about how your family back in August decided to enroll in the Distance Learning Academy.
   Well, my mom wanted to try it and see what was better for me, my grades. To see if the in person learning was better of me or if (DLA) was.

   Did COVID play a part or was it the incentive to get a laptop for your family?
   I think the COVID part was more. My mom wanted me to be more safe. But if my grades were going to slip she would want me to be at school.

2. Describe for me your where and how you learn in your distance learning environment.
   Uhm, I either did it at the desk in my bedroom or at the kitchen table.

   How do you learn in distance learning? Do you listen to music, do you set a schedule, were you really good at being self-regulated in getting up and doing your classes or did you struggle? Tell me about your experience.
   Well, usually I listen to music to block out my brothers and sisters. But, I think it was harder for me to be in the mindset of school when I am at home.

   Were you successful as far as your grades and stuff or did you fall behind? Did you find it difficult to keep yourself on track?
   I found it difficult, hard to keep on track whenever I was at home.

3. You have been enrolled in this learning environment now for 7 weeks, what do you like about it?
   Well, I like that I can work at my own pace. Like take as long as needed if I needed help.

   What would you like to see changed?
   Uhm, The interaction with the teacher. Email takes a long time for the teacher to respond cause they are getting emails every day.
   Is there anything else you would like changed about it?

Not really, my thing was I just couldn't focus.

4. How do you feel about your performance on your first math common assessment? (Actual score: 57)
   My first "MAP" test I think I did pretty well by how much I have learned this due to the COVID situation.

   Okay, so for your first math assessment you made a 57 on it.
   Oh, I thought we were talking about the MAP assessment.

   The interviewer reviewed the word math test.
   Oh, then definitely I think I could have done better.

   Do you think you would have done better if you were in a traditional setting?
   Yes.

5. What have you learned about yourself as distance learner since you have had this experience?
   I think that being in person and being able to talk to the teacher and see what he is doing is a lot better than watching a YouTube video because you can't ask questions about that.

   Is there anything you want to say about our distance learning academy?
   Most of my assignments that I was missing is because Odysseyware was blocked.

Student #2: Annah (pseudonym)
Annah is an 7th grade student in DLA. Under [redacted] State Ethnicity Codes, she is labelled Asian (Indian). She lives in a multi-generational home with her sister, parents and grandparents. She is the youngest in the household. She is identified as GI (general intellectual ability and GT (gifted and talented) in the areas of Language Arts. In 2019, her 1st nine-week grade for mathematics was a 97(A). In 2020, her 1st nine- week grade in mathematics was a 66(D).

1. Talk to me about how your family decided to enroll in the Distance Learning Academy.
   We decided to enroll in (DLA) because I have a weaker immune system and a lot of people in my house do and we didn't want to risk it.

   Did COVID play a part in enrolling in (DLA) or was it the incentive to get a laptop for your family?
   No, just because of COVID.

2. Describe for me your where and how you learn in your distance learning environment.
   I usually just sit in my living room.

On a couch or at a desk or what?
Uh yeah at a table in my living room.

How you learn in your distance learning environment?
Uhm, I do not think I learn as well as I used to like in school. Uhm, because we don't see the teacher or hear them. It was just easier in school for me.

3. You have been enrolled in this learning environment now for several weeks, what do you like about it? What would you like to see changed?

   Uhm, I like that we are able to ask the teachers for help (by email). I like that they (Odysseyware) has that feature in there. It is usually in a chat box. Sometimes if we do need help we can call them.

   What would you not like about it or want to see changed?
   I don't like that I can't see the teacher or hear them. Uhm, …. I think maybe if instead of having just passages we had a video recordings of the teacher explaining how to do it. Something like that.

4. How do you feel about your performance on your first math common assessment? (Actual Score: 66)
   I did not feel good about that.
   Do you think you would have done better in a traditional setting versus (DLA) distance learning?
   Uh, yeah.

   So, talk to me about why in math you like being in front of a teacher?
   Well, in math I like being in front of a teacher because I can hear them explain it. I just can comprehend it better when I can hear and see it.

   Is there anything else you would like to see changed in distance learning to make it more successful for you?
   No.

Student #3: Donny (pseudonym)
Donny is an 8th grade student in DLA. Under [redacted] State Ethnicity Codes, he is labelled White. He lives in a two-parent home with two brothers. He is the oldest of the children. He is identified as GT (gifted and talented) in the area of leadership. In 2019, his 1st nine-week grade for mathematics was a 97(A). In 2020, his 1st nine-week grade in mathematics was an 86(B).

1. Talk to me about how your family decided to enroll in the Distance Learning Academy.
   Uhm, personally, I think we went off the number of COVID cases and it would just benefit us in a safe way. It would keep us away from COVID and it was just something new to try.

Did COVID play a part or was it the incentive to get a laptop play a bigger role for your family?
For me or my family?

You can tell me both.
For me, really COVID. It was like 75% COVID and 25% the laptop. I wanted to see what it was like to do school virtually. Since it was my first time and I just wanted to stay away from COVID.

2. Describe for me your where and how you learn in your distance learning environment.
Uh, Uh, I do school through Odysseyware and I usually start school around 7 AM and end around 2 PM.

Okay, where do you actually do your learning though "Donny"?
At home at the table.

At the kitchen table?
Yes, ma'am.

Not laid up in the chair or on the couch or laid up in the bed?
We do most of our school work at the table so that we won't tend to not do our school work. If we have a test or quiz where we need more quietness, we go to our rooms.

Awesome!

How do you learn in your distance learning environment? Do you set a schedule or do you just start whenever you decide to get up? Do you play video games first? So how do you learn in that environment? Do you play music?
Uhm well, *I try to make it a regular school day so that… I try to make it school so that… having good grades in school I try to make that happen virtually. So, I will set an alarm and get up at the time I usually go to school and then from the bus ride we would leave around 7AM that's why I start at 7 AM and usually I have a schedule and I write down all my assignments or my mom helps me. I write down all the assignments I need to get done that week, and upcoming test and quizzes that I need to study for. I don't play music or anything, I just do my schoolwork.*

Alright.

3. You have been enrolled in this learning environment now for 12 to 15 weeks, what do you like about it?
I like the uhm, I like there is not as many distractions in school like drama and things like that. But, one down side to virtual learning is that you don't get that sense of the teacher always being there to help you. I'm not saying that the

teacher is never there to help me if I as for help, but it's not the same as it would be at school. The teachers help me all the time, please don't take that the wrong way.
(Laughter)

What would you like to see changed?
Uh, In my opinion there is nothing really. I would probably think of something after I end this survey. Nothing right now. Nothing really.

4. Okay let's talk about your first math assessment. How do you feel about it before I tell you what you scored? (actual score: 63)
Uh, I mean it was a challenge. I don't think I did too good. I mean I have confidence though but it wasn't as easy as it is every year. I think I was more challenged with all the stuff and this new Odysseyware.

You scored a 63. Have you learned anything uhm about taking test and about yourself as a learner in distance learning?
I have learned more about myself. I have seen what kind character I have a little bit more. I would say I have learned how all the distractions around me go away but I can't say that because I don't have many distractions here.

That is about it. I am glad that you have learned that you can succeed in a virtual learning setting. If we ever get back to school, I can't wait to see your mom and you boys.
Thank you.

You have a good night and tell your mom Thank You.

Student #4: Russell (pseudonym)
Russell is an 7th grade student in DLA. Under [redacted] State Ethnicity Codes, he is labelled White. He lives in a two-parent home with two brothers. He is the youngest of the children. In 2019, his 1st nine-week grade for mathematics was a 96(A). In 2020, his 1st nine- week grade in mathematics was a 93(A).

1. Talk to me about how your family decided to enroll in the "Distance" Learning Academy and that's where you use the Odysseyware program.
My family decided to enroll me there because we did it when we heard we had to wear a mask constantly at school: on the bus, at school… we couldn't play with our friends… we had to stay in our own class and eat lunch there, I wanted to start homeschooling. And then they found Odysseyware and we signed up for it and it's been working for us great.
Awesome!

Did COVID play a part or was it the incentive to get a laptop for your family?
It was COVID.

2. Describe for me your where you learn in your distance learning environment.
   I learn at my dining room at the table.

   So, how do you learn best? Do you set a schedule and self-regulate or just when you feel like it, do you get up and do a subject, how do you learn in a distance learning environment?
   We usually get up and go feed our animals. We have six or seven do every morning when we wake up. Play some video games then at 7 o'clock, we start our homework. That's when I learn and when I am done I do the rest of my chores and then I am free.

3. You have been enrolled in this learning environment (distance learning) now for 12+ weeks, what do you like about it?

   I like the part where I can talk to my teachers through google meets, Uhm, I don't have to wait on getting my work done and others to finish. I get mine done fast and get good grades, and I think that's how I learn best by not having to wait and I can just keep moving on without…. having to do other assignments while I'm there.

   What would you like to see changed?
   I would like to see….uhmmmm. Naw, I don't think there is anything that I would like to change.

4. How do you feel about your performance on your first math common assessment? Do you remember what you made? You made a 73. Tell me about how you feel about your performance. Did you study, do you think you would have done better if you would have had math in a traditional setting? Talk to me about your first math common assessment. (actual score 73)

   Can you tell me what the subject was? Was it (test) algebra, was it….

   I don't remember what your unit test was on. I only know you made a 73 on it.

   Okay. *Uhm, I think I could have done better if… I feel like if I am with a teacher in the classroom teaching us I usually do better if I look and hear it coming from a person rather than a computer.*

   Is there anything you want to add about distance learning?
   Well, actually when I am doing my homework at home I can have constant access to help from my brother, mother and dad. One of them is always home.

Student #5: Frank (pseudonym)
Frank is an 7th grade student in DLA. Under [redacted] State Ethnicity Codes, he is labelled White. He lives in a two-parent home with one other brother. He is the youngest of the children. Both he and his brother (an 11th grader) are in DLA. He is identified as

GT (gifted and talented) in the areas of Language Arts and leadership. In 2019, his 1st nine-week grade for mathematics was a 98(A). In 2020, his 1st nine-week grade in mathematics was an 87(B).

1. Talk to me about how your family decided to enroll in the Distance Learning Academy.
   Uhm… well when we were deciding what we were going to do we didn't want the risk of getting COVID and that was the first issue… and also we were afraid that going from NTI to traditional learning would be too much and decided to stick with one thing and it would be easier on us.

   Okay, excellent.

   Did COVID play a part or was it the incentive to get a laptop for your family?
   No, I mean we already had things for DLA, we were just afraid of getting COVID.

2. Describe for me your where and how you learn in your distance learning environment.
   Uhm, we have a spare room in our house and we changed that from just a little a family room to a classroom for me and my sibling.

   Okay so that is where you learn, so talk to me about how you learn… music or manipulatives.
   I mean, I wake up and I do a little bit without music, but when I get to the easier subjects at least for me, I will put on music, walk around and take a break. Whatever is comfortable for me as long as I get my work turned in.

   Do you think you are self-regulated enough to do the work? Do you set a schedule or have you been late with any of your assignments?
   Uhm, yeah I've been late and have had things not turned in on time. Like if I have an appointment, or something it may be like a day or two late or I will forget that it (the assignment) is there.

3. You have been enrolled in this learning environment now for 15 weeks, what do you like about it? What would you like to see changed?
   Uhm, well it's honestly I like it a whole lot better that when we did the NTI last year for a little bit. Because I can have my own schedule and like not as much back and forth. It makes it easier if I want to take a break before lunchtime, I can do that as long as I get my work turned in.

   Awesome! What time do you normally get up and start?
   Uhm, I like to make sure I normally get up and started and all that before 9 AM. But, I try to get up before that.

   What would you like to see changed about it?

Uhm, I mean honestly it's a pretty good like website like how they have everything set up and all of that. But sometimes it's hard to learn all the subject because you don't have a teacher with you. But it also helps because you can send a message they will usually get back with you in about 30 minutes. So, I mean there's many things that I can say are really wrong with it.

4. How do you feel about your performance on your first math common assessment? (actual score 68)
   Oh, I think I got like a 60 something.
   Do you think if you were in a traditional setting you would have scored higher? Talk to me about that.
   Uhm, well I really think… well. I might have been able to score much higher (traditional setting). Also, it was the first weeks of DLA and I was still getting used to all of it. But, like now I know and I have my sibling help me. But the problem if I need help at that time I was just doing everything by myself and I would just click and answer and move on so I think a lot of it. I didn't focus too well on it. And there were somethings on it we had never talked about it before.

   Gotch ya.

   Is there anything else you would like to highlight about distance learning? Are you planning to come back to the traditional setting once this pandemic is over?
   Oh, yeah definitely. I know it's very unlikely we will come back this year. So, we plan on coming back next school year. When hopefully everything is cleared up.

Student 6: Brianna (pseudonym)
Brianna is an 8th grade student *in DLA. Under I[redacted] State Ethnicity Codes, she is labelled Black or AA. She lives in a single parent home with one younger sibling. Brianna is serviced as a student with an Individual Education Plan (IEP) and is serviced in the areas of: math, reading and writing. She receives added resources services for 45 minutes daily in an on-line setting with a district special education teacher. She is also an athlete and was able to participate in sports while in DLA. This help to keep her on track with her grades as the school has a "No Pass/No Play" policy. In 2019, her 1st nine-weeks grade for mathematics was a 56(F). In 2020, her 1st nine-weeks grade in mathematics was a 61(D). Both grades modifications were received on assignments and tests. NOTE: it was extremely hard to get Brianna to talk and open up….*

1. Talk to me about how your family decided to enroll in the Virtual Learning Academy.
   Cause my momma don't want to catch the corona.

   So, did corona did play a big part of it?
   Yes ma'am.

2. Describe for me your where and how you learn in your distance learning environment.

At this desk my mama got.

Okay. So how are you learning in DLA? Think about your learning style: do you learn better by yourself or with your peers, with a teacher, or with hands on technology? Talk to me your learning in DLA.
Learn better with a teacher.

But you are hanging in there right now?
Yes, ma'am.

3. You have been enrolled in this learning environment, in virtual learning now for several weeks, you are still there. What do you like about it? What would you like to see changed?
Like: I get to stay home, and play games. It's more faster.

Do you get to choose your schedule? Do you get up and get on it (Odysseyware) when you want to? Do you get to sleep in?
Yes ma'am, I do all that. The best parts are playing games and sleeping in.

Those are the things you like, but what would you like to see changed about virtual learning?
I want to go back to school but….. (interviewer had to reword question)

So if you can't go back to school because you are still at home, what would you like to see changed about the program and how virtual learning is handled?
Nothing. It's just okay.

4. How do you feel about your performance on your first math common assessment? (actual score: 44)
Average?

You made a 44%. So we didn't do so well. What do you think could have helped you improve the next time you take a math test virtually?
Study even more.

Is there anything else that could have helped you?
No ma'am.

When you took tests last year in the traditional school setting what resources did you have that made it easier for you to work on your math?
……I don't know….

Did you work with Mandy (pseudonym), Mr. Strong (pseudonym)?? What helped you when you were in person?
Mr. Strong?

You mean the teacher, working with the teacher one-on-one?
Yes ma'am.

Well, I hope you do better on your second math assessment. Think about all the resources that you have…. Khan Academy, Afternoon tutoring (I think you are now taking advantage of that when you are not at basketball practice.) So, I just wanted to know how we can change DLA to make it better for you guys.

Student 7: Ashley (pseudonym)
Ashley is an 8th grade student in DLA. Under [redacted] State Ethnicity Codes, she is labelled Hispanic. She lives in a two-parent home with one other sibling. She is the oldest of the children and is fluent in English. No services for English Second Language are given. She is identified as receiving Response to Intervention (RtI) services. This identification means that she is testing two or more years below her actual grade level in either math or reading. Infinite Campus did not identify which subject. In 2019, her 1st Nine-Weeks grade for mathematics was a 71(C). In 2020, her 1st Nine- Weeks grade in mathematics was a 57(F).

1. Talk to me about how your family decided to enroll in the Virtual Learning Academy.
   Uhm, what do you mean?

   How did you decided to do that instead of coming to school in person?
   I didn't get to choose.

   You didn't? Did your mom choose? If so why do you think your mom choose that learning environment for you?
   So that we could not get COVID. So, we could focus.

   Did COVID play a part or was it the incentive to get a laptop for your family?
   I don't know.

2. Describe for me your where and how you learn in your distance learning environment.
   In my room on my computer.

   Do you learn on your computer at a desk or on your bed?
   Sometimes at my table in the kitchen.

   And in your room?
   Yeah.

   How do you learn? Do you listen to music, wear earbuds, set a schedule for yourself?

Uh...me and my brother wake up at 6 AM, get everything ready, brush our teeth, and then we go in our rooms. At around 6:30 AM we should be done and then we come in and work. And sometimes if I have time, I sometimes listen to music, but then I turn it off because sometimes it gets distracting. And then that's it. Now I was doing an assignment and I was listening to music.

3. You have been enrolled in this learning environment now for about 15 weeks now, what do you like about it? What would you like to see changed?
What do I like about it?

Yeah.

Uhm, to be home I guess. But I would mostly like to be in school.

Okay. What else do you like about it? Anything else?
Uhm….

While you are thinking about that, let's go to the next question. What would you like to see changed about it? What do you want people to know as they listen to you as a student to see changed?

What do you mean by that question?

For example, if you were at a traditional school, you may not like the drama dealing with kids. So, what is something about working at home in a virtual learning environment would you like to see changed? Do you like Odysseyware? Do you not like Odysseyware? Do you like the contact with teacher? Do you not like the contact with teacher?

What is something you would like to see changed?
I don't like using Odysseyware because when I am working on an assignment it logs me out then I have trouble getting back on the assignment because then it says I turned it in and I was in the middle of working on it. But I fixed that. And then, I'm just sending so many more websites to do more work on. Like Google classroom was okay, and Clever was okay, and Study Island was okay. But then Odysseyware came in and was piling up.

Gotch ya.

4. How do you feel about your performance on your first math common assessment? (actual score 57)
What do you mean?

You took a math test in probably October/November. Do you remember how you did on it?
No.

You made a 57. So, what did you find hard about learning math in distance learning?
Cause, I don't really get help. I can be like, Hey, what's this question, how do I do it?" They like re-go over the lesson and I can like, "oh" get back on track. But, with electronics it's like Hey, I have to search it up, then I have to do a Google meet with the teacher. Then something happens and yeah, I would rather be near the teacher so I can say, Hey, what's going on with this? So that I can understand it quicker and faster.

Gotch ya.

5. What have you learned about yourself as a student in a distance learning setting? Are you good at being in a distance learning setting or better in a traditional?
I'm better in a traditional.

Are you? What are some of the things you miss about traditional learning?
Uhm, that I can get quicker help and I can just see all the teachers and say, Hey they are there. And besides having to email them and not say, Hey, I emailed you three hours ago, what is going on? And in traditional school, I can say, Okay this teacher is not here, so I can get help from this teacher. I don't know which teacher is responding in DLA.

Gotch ya. Thank you so much for answering these questions. I hope you get back to school soon.

Student 8: RaShaun (pseudonym)
RaShaun is an 8th grade student in DLA. Under [redacted] State Ethnicity Codes, he is labelled Black or AA. He lives in a single parent home with three other siblings. He is the second oldest of the children. Last year, RaShaun's father was murdered. RaShaun is an athlete and was able to participate in sports while in DLA. This help to keep him on track with his grades as the school has a "No Pass/No Play" policy. In 2019, his 1st nine-week grade for mathematics was a 64(D). In 2020, his 1st nine- week grade in mathematics was an 82(B).

1. Talk to me about how your family decided to enroll in the Distance Learning Academy.

In August, mama let us go to the table and talked to us about it. We were always doing something. She just asked to you want to go to school or do virtual. She said she would let us try virtual and see how the numbers go (class averages). I struggled a lot with Odysseyware.

Did COVID play a part or was it the incentive to get a laptop for your family?
We wanted the laptop.

2. Describe for me your where and how you learn in your distance learning environment.

   I did all my work at the kitchen table. I like to learn on a computer.

3. You have been enrolled in this learning environment now for several weeks, what do you like about it?
   So like Odysseyware gives you immediate feedback on your school. Automatic grade was given you don't have to wait on the teacher. English was less complicated. You get extra time to do something. Stuff not due the next day. You have your own schedule.

   What would you like to see changed?
   Having to wait on the teacher to email when you had a question. I would get frustrated with that. The math was really hard. I need a teacher for that.

4. How do you feel about your performance on your first math common assessment? (70)
   Okay, well I probably did alright. I have my momma to help when she not at work. I do like I could take me time with it.

   What did you learn about yourself as a learner while in DLA?
   I do pretty good. I like math better with a teacher.

Student #9: Nazzie (pseudonym)
Nazzie is an 8th grade student in DLA. Under [redacted] State Ethnicity Codes, she is labelled Black or AA. She lives with her grandmother. Nazzie's mother and her siblings live in another home. She is the middle child. When asked during a mentoring session last year why she did not live with her mother in grade 7, Nazzie indicated that she and her mother do not have a bond and they do not get along. Administration referred her to a counselor to make sure she had all services available to help her with any depression she may experience. Nazzie is also identified as receiving Response to Intervention (RtI) services. This identification means that she is testing two or more years below her actual grade level in either math or reading. Infinite Campus did not identify which subject. In 2019, her 1st nine-week grade for mathematics was a 72(C). In 2020, her 1st nine- week grade in mathematics was a 71(C).

1. Talk to me about how your family decided to enroll in the Distance Learning Academy.
   We decided me and mother.

   Was there any particular reason why?
   Because of COVID.

   Did COVID play a part or was it the incentive to get a laptop for your family?
   COVID.

Good Okay.

2. Describe for me your where and how you learn in your distance learning environment.
   The kitchen.

   Why did you learn in the kitchen?
   Because it was quiet.

   How did you learn in your distance learning environment? Tell me about your routine.
   I wake up in the morning and go straight to the kitchen, log-on and do my work.

   Okay.

3. You have been enrolled in this learning environment now for several weeks, what do you like about it?
   That it was quiet, no distractions.

   Anything else?
   No, that was it.

   What would you like to see changed with Odysseyware or anything else?
   I would like having more Google meets.
   With the teacher?
   Yes, with the teacher.

4. How do you feel about your performance on your first math common assessment? (actual score: 0 refused to take)
   Because I couldn't get on it.

   What types of problems did you have? Was it problems with Odysseyware or the Internet connection?
   Odysseyware. I couldn't get my log-in.

   What have you learned about yourself as a student after being in a distance learning setting?
   Nothing.

Student #10: Lisa (pseudonym)
Lisa is a 7th grade student in DLA. Under [redacted] State Ethnicity Codes, she is labelled White. She lives with her father, step-mother and three step siblings. She is an only child on her father's side. She is identified as receiving Response to Intervention (RtI) services. This identification means that she is testing two or more years below her actual grade level in either math or reading. Infinite Campus did not identify which subject. In 2019,

her 1st nine-week grade for mathematics was a 67(D). In 2020, her 1st nine- week grade in mathematics was a 73(C).

1. Talk to me about how your family decided to enroll in the Distance Learning Academy.
   …….
   Whose decision was it?
   My parents' decision.

   Did COVID play a part or was it the incentive to get a laptop for your family?
   COVID.

2. Describe for me your where and how you learn in your distance learning environment.
   My kitchen table.

   How did you learn, did you have a routine, listen to music… how did you learn?
   My routine was me getting up early in the morning like I do for school, eating breakfast like I do in school and how I focus and do my work was with music.

   Did you take any breaks to play games, do chores, etc.?
   I took a break few hours.

3. You have been enrolled in this learning environment now for several weeks, what do you like about it?
   I got to spend more time with my siblings.

   Okay, anything else you like about it? If you can't think of anything just say nothing…. *****phone line was dropped**** new call had to be made.

   My parents were able to help me a lot and it was so different. It was my first time.

   So, what would you like to see changed about that program?
   I don't really know.

   Do you think you are more successful in a traditional setting or an online setting? Do you need the teacher more or need the teacher less?
   Need the teacher more.

   Did you have a hard time contacting the teacher in DLA or was it easy?
   It was in between. Sometimes it would be hard and sometimes it would be easy.

   What mode did you use to contact the teacher? Was it the chat box or email or what?
   Email.

4. When I looked at the 1st math test in DLA, it showed that you did not take the test. Do you know why you did not take the test? (actual score: 0 refused to take)
   Because I was in DLA.

   It was in DLA, do you know why you didn't take that test?
   No.

   Could you not find it or did you not feel comfortable taking it?
   I couldn't find it.

   You didn't have any issues with Internet.. you just couldn't find it?
   I just couldn't find it.

   What have you learned about yourself as a student since you've experienced traditional last year and DLA this year? What did you learn about yourself? Are you better at one or the other?
   I learned about myself that I am better at science than at math. That was really surprising to me because I always loved math.

   Do you think you work better in a traditional setting or an on-line setting?
   Traditional.

Student #11: Laura (pseudonym)
Laura is a 7th grade student in DLA. Under [redacted] State Ethnicity Codes, she is labelled White. She lives in a multi-generational home with her mother, step-father, grandmother and two other sisters. She is the middle child. In 2019, her 1st nine-week grade for mathematics was a 73(C). In 2020, her 1st nine-week grade in mathematics was a 92(A).

1. Talk to me about how your family decided to enroll in the Virtual Learning Academy.
   Uhm… I guess it's because we didn't want to end up with corona virus.

   That's fine. Did COVID (corona virus) play a part or was it the incentive to get a laptop for your family?
   Uhm…Is that like saying did we need an extra laptop?

   Yes.
   Yeah, then we needed an extra laptop.

2. Describe for me your where and how you learn in your distance learning environment.
   Uhm… Is that that dress wise or school wise?

No just where. Where in your home did you learn? Where did you take your laptop and do your learning?
In the kitchen.

In the kitchen? Did you use earbuds or something?
I normally use earbuds.

How did you learn in your distance learning environment? You told me you used earbuds, did you listen to music, did you set a schedule? How did you get up and learn in your environment?
Well we just…whenever we have lessons and we have videos I just use the earbuds so it doesn't distract anyone else. Whenever I have meetings with my teacher, I use earbuds so I don't distract anyone else like my sister when she is working.

Did you set a schedule for yourself? (repeated) Like every day I am going to get up and do this and then I may take a break? Did you set some kind of schedule?
Yeah.

You did?
We have these little planners to where we write down what is due what day, and when we are on one thing where you take a break close lunch and get up and finish it later on.

Perfect.

3. You have been enrolled in this learning environment now for several weeks, what do you like about it?
I like the staying at home part.

Good. Anything else you like about the programs?
Uhm…

Anything you like about Odysseyware?
I like that whenever we have lessons and have a low grade we redo it and it tells us what we got wrong so that we don't accidentally get the ones that we got right wrong and end up with a lower grade.

Okay. What would you like to see changed about distance learning?
And when we have a test or something and get some wrong, were allowed to do it again. But I would like them to show us the ones we got wrong so that we don't get a lower grade. Instead of us changing the ones we got right. That's happened with me a few times.

So Odysseyware would let you redo the homework assignment, but not a test? Is that correct?

Yes.

4. Okay, How do you feel about your performance on your first math (test) you took on Odysseyware? (actual score 73)
   I was a little nervous because I didn't want to get a bad grade. But then I tried to do it the best way I could understand it.

   Do you remember what you scored on that test?
   Uhm….

   I have it if you don't remember.
   I think it was a 94.2.

   Well, it was a 73.

   So, looking at math and doing math online or traditional, how do you think you as a learner do better?

   I think I do it better traditional. Cause I actually get to see my teacher. If I have questions, she can explain it the best way she can. I don't have to wait a while for her to send a message.

   So, how did you communicate with your virtual learning teachers?
   We would just type in messages. For example if we needed to reopen a test or assignment, we would just text her a message.

   Did it take a long time for them to get back with you or were they really quick?
   It took a little while but it wasn't like super long.
   Okay.

   What have you learned about yourself as a student, now that you have been a student in the traditional setting last year and after being in a distance learning setting this year?
   I have learned about myself, that in some subjects I am really quick to get and some I am not.

   What subject do you think you need the teacher the most on?
   Math

   Okay, I sure appreciate you interviewing with me and I hope you stay safe and warm during this ice storm.

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